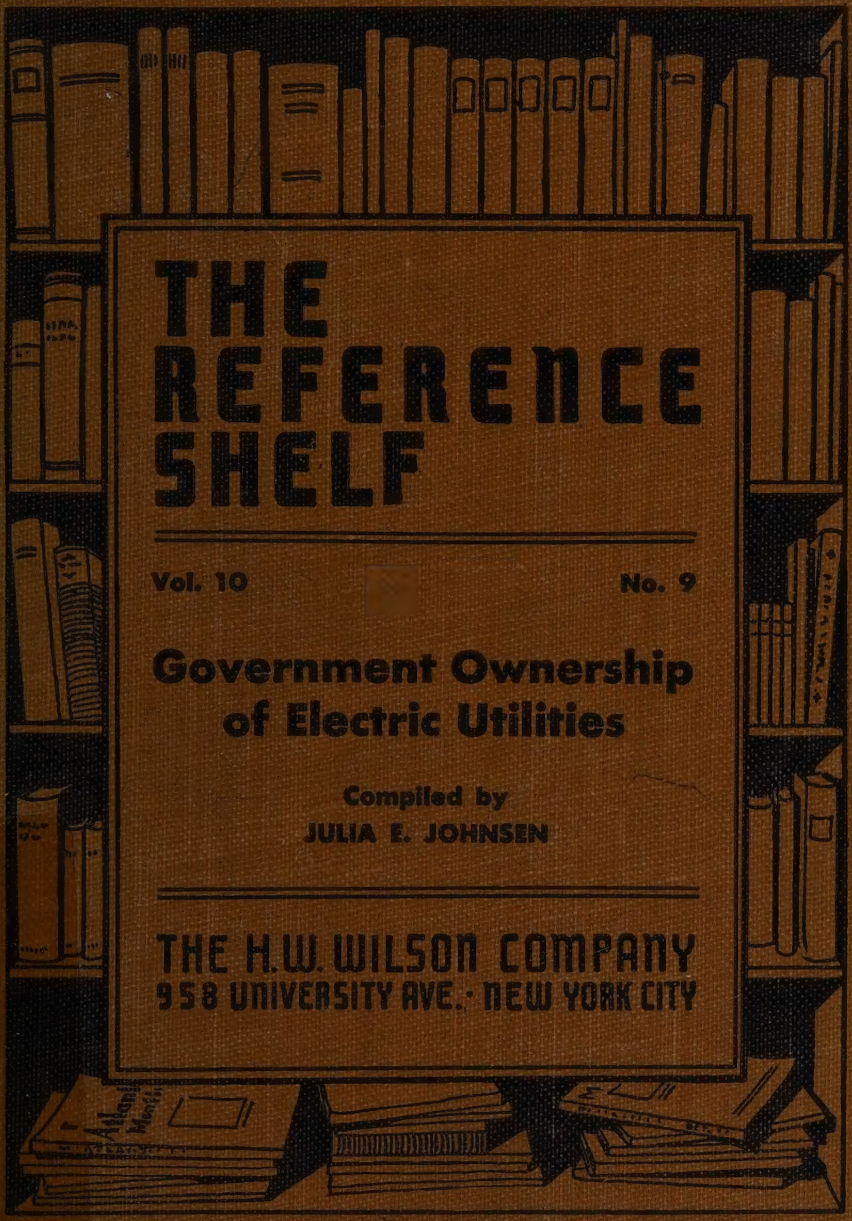

THE REFERENCE SHELF

Vol. 10 No. 9

Government Ownership of Electric Utilities

Compiled by
JULIA E. JOHNSEN

THE H.W. WILSON COMPANY
958 UNIVERSITY AVE. · NEW YORK CITY

The Reference Shelf

is published to make available when needed good debates, collections of articles, briefs, bibliographies and study outlines on timely subjects for public discussion. Each number is devoted to a single subject and, unless otherwise noted, contains briefs, references and selected articles. To make the material available at the time of greatest need, publication is irregular. Each volume contains ten or more separate issues, about 1500 pages in all, and covers about a year in time.

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THE H. W. WILSON COMPANY

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THE REFERENCE SHELF

Volume 10 Number 9

GOVERNMENT OWNERSHIP *of* ELECTRIC UTILITIES

COMPILED BY
JULIA E. JOHNSEN

NEW YORK
THE H. W. WILSON COMPANY
1937

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Published October 1936
Reprinted January 1937
Printed in the United States of America

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INTRODUCTION

In 1933, President Roosevelt in a special message to Congress, publicly expressed his interest in the national power problem and his acceptance of it as a paramount issue. As Governor of New York, he had earlier interested himself in the problems of power within that state. The outcome of his advocacy was not long in being manifest, with results that are familiar to the public today, in the immense Tennessee Valley Authority, built upon the nucleus of the Muscles Shoals project that had engaged public attention for more than a decade, in other activity in behalf of water power development thruout the nation, in federal encouragement of municipal-and state-owned power projects, and in the wide promotion of the use of electrical appliances and rural electrification thru such channels as the Electric Home and Farm Authority and the Rural Electrification Administration, developed as part of an immense plan to electrify, and to extend the benefits of electric power thruout the nation.

The principle of government ownership and operation of industry is not new. It has long been accepted in non-profitable social services, and advocated in undertakings of a public, monopolistic nature. Municipal experiments in ownership of power plants have been many and have covered a period of some decades. The movement for the conservation of natural resources included a realization of the importance of the preservation of the nation's water power resources in the interests of the whole people, and a set-back to their free disposal by private interests. The St. Lawrence power project has been germinating for many years, while the Ontario Hydro-electric Power project of Canada has long served

as an example of rates and services to be contrasted to those of its neighboring states on this side of the border, and has been widely commended and derogated. The Boulder Dam undertaking, one of the major developments of public power, had for some time aroused expectations on the part of both public and private industry advocates concerning the distribution of the immense power made available within its area. It remained, however, for the active realization of the Tennessee Valley project and the initiation of a broad social and economic experiment in connection with it, envisioning a completely electrified area, and a public "yardstick" determination of rates practicable for adoption thruout the nation, to make the issue of electric power one of outstanding importance and contention.

The private power companies have watched with apprehension and opposition government encroachment upon, and activity in, the field developed by their past initiative and genius into one of the major industries; despite all alleged shortcomings, a magnificent contribution to our civilization. In spite of revelations of past financial excesses and abuses, coming to light under federal and state investigations, they have upheld their right, as well as the right of industry in general, to be reasonably free from undue injury brought about by governmental activity. With them stand those who have consistently maintained individualistic, as opposed to socialistic, concepts of the economic system under which our national greatness has been attained, those who have ever questioned the wisdom of governmental undertakings aside from the most essential, and those who fear the concentration of great economic power when united to power of a political order.

The federal government has invested many millions in power projects and vast plans have been projected for further development. Congressional bills have called for the creation of other power authorities similar to the

Tennessee Valley Authority, for example, the Mississippi Valley Authority and the Columbia River Authority, and for the more intensive development of the power resources of their areas. Municipal and state aid have been given thru federal funds for plants to be operated either independently or in connection with federal projects.

The present number of the Reference Shelf has been prepared to meet the interest in, and need for, material covering phases of current discussion relating to this problem. It supplements an earlier vovlume of the same series, compiled by James G. Hodgson, entitled *Government Ownership of Public Utilities,* published in August, 1934, and also three volumes of the University Debaters' Annual edited by Edith M. Phelps, which contain reports of debates, briefs, and bibliographies. A considerable amount of current discussion exists and makes impracticable a complete coverage within the limits of this volume, but the attempt has been made to include as wide, helpful, and impartial a selection as possible, both in the classified bibliography and in the selection of reprinted articles. The aim has been, also, to avoid reprinting any material which may be readily obtained in other debate sources. The National University Extension Association debate statement for 1936-1937 has been taken as the specific question on which the summary of arguments is based.

While prepared primarily for debate, it is hoped the volume will be found useful for other students and readers as well. The Compiler makes acknowledgment of the many courtesies extended in giving permission to reprint copyright material.

JULIA E. JOHNSEN

August 31, 1936

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SUMMARY OF ARGUMENTS

RESOLVED: *That all electric utilities should be governmentally owned and operated.*

INTRODUCTION

A. Definitions. [1]

1. It is understood that the proposition concerns only the United States of America. Further, the term "all" should be read in the context so as to include only those electric power and light plants which are *public* utilities.
2. The term "electric" is understood to refer to *electric power and light.* It does not include such communication utilities as the telephone, the telegraph, and the radio sending station. Street railways and other transportation agencies are not construed to be *electric utilities* within the meaning of the proposition. The electric transportation agencies, as common carriers, have no relation to the proposition, except as they, like other industries, may be consumers of electric light and power.
3. The term "utilities" is construed to mean those agencies engaged in the production and distribution of electric light and power *for sale.* Nothing within the meaning of the proposition is to prevent the

[1] Section A on "Definitions" and the official wording of the National University Extension Association proposition for debate for 1936-1937 were prepared by the Committee on Debate Materials of the National University Extension Association and are here published thru the courtesy and with the permission of Mr. H. G. Ingham and Mr. Bower Aly of that Committee.

generating of electricity by any establishment for the sole use of that establishment.

4. The term "governmentally" may be used, within the meaning of the proposition, to describe a system owned and operated by the federal government, or by the several state governments, or by municipalities, or by a coordinate system employing all or any combination of the various units of government. The term "governmentally" may also be used to describe a corporation or Authority in which the capital stock or assets are held exclusively by governmental agencies. The essential principle to be debated is thus that of the relative advantages of private *versus* some form of public production and distribution of electric light and power.

5. The term "owned and operated" is here affirmed, for the purpose of the proposition, to represent the single process of furnishing the consumer with electric light and power. The term includes the concept of "distribution" as well as that of "production."

(The general plan of organization of the activities of the Committee on Interstate Cooperation of the National University Extension Association precludes any "official" definition of the proposition. However, since the definitions here stated were accepted by the committee which worded the proposition, they may serve to clarify it.)

B. The question of public or private ownership and operation of electric power is of outstanding importance.
   1. Much criticism has been directed against the private electric utility industry.
      a. Consumer dissatisfaction with rates and services under private industry has been frequent.
      b. Federal and state investigations revealed many grave abuses on the part of private companies.
   2. Recent public power programs, federal, state and local, have brought the question of governmental policy in this respect prominently before the people.
      a. Municipal and state ownership of electric plants are being given active encouragement by the national government.
      b. Other public water power projects of great importance have been initiated or are being considered in other areas of the United States.
         (1) The Columbia River, Mississippi River, St. Lawrence River areas and elsewhere.
      c. The TVA has undertaken an immense program of electric water power development and distribution under the federal government.
   3. The private utility industry faces fundamental change if the present trends are continued.

C. The issues are:
   1. Do present conditions call for a change from the present system of privately owned utilities?

2. Would government ownership and operation of electric utilities be beneficial?
3. Is government ownership and operation the best way to remedy shortcomings of the electric power industry?

AFFIRMATIVE

I. Conditions call for a change from the present system of private ownership of electric power utilities.
   A. The private utilities have failed to meet their responsibilities as trustees of this power for the benefit of the people.
      1. They have failed to develop the immense potentialities of electrical service for the benefit of the people of the nation.
         a. They have been responsible for the undue limiting of electrical service.
            (1) Their policies have limited domestic consumption to a fraction of its possibilities.
               (a) High rates have greatly curtailed the use of electric power.
               (b) The cost of more extended electrical appliances and of the current to operate them have kept these services in the luxury class and beyond the reach of the majority.
               (c) Fully electrified homes are practically unattainable under private ownership.
            (2) They have restricted the industrial use of power.
               (a) The expensiveness of current from private utility

companies has led some large users to instal private plants.

b. They have refrained from or have been incapable of, the development of a vast territory which is without electrical service of any kind.
   (1) Rural electrical service has been largely undeveloped.
      (a) Only a small percentage of the rural area is adequately electrified.
   (2) The companies have confined development largely to areas of greatest profit.

2. Private utility companies have been responsible for much mismanagement of the industry.
   a. They have resorted to many questionable activities in the past.
      (1) Immense propaganda activities were revealed under federal investigation of the utilities.
      (2) They have resorted to undesirable political activities.
         (a) They have maintained lobbies to corrupt legislatures.
         (b) They have bought elections.
   b. They have resorted to unwarranted excesses and practices to inflate property valuations.
      (1) Overcapitalization has been common.
         (a) Recapitalizations have been written up during

sales, mergers and reorganizations.

(b) Millions in watered stock have been added, not represented by any actual investment.

(2) Obsolescent property has been carried on the books to increase valuations.

c. They have engaged in speculative practices.

d. They have been responsible for heavy losses to investors.

B. The electric utilities have otherwise exploited the consuming public for the sake of greater profits.

1. Rates have been kept high.

a. Rate reductions have been opposed whenever possible.

b. Rates charged consumers have been high in relation to real costs.

(1) They have been based upon inflated rate base structures.

(a) Unreasonably high valuations have entered into them.

(b) Stock has been split up to hide high earnings and to justify current or increased rates.

(c) Other improper and hidden charges have been made.

c. Rates have been high in comparison to rates charged by public utilities for the same service.

2. Millions have been withdrawn from the utilities in profits and inflated charges.
   a. Excessive salaries have been paid executives.
   b. Heavy bonuses have been distributed in addition to salaries.
   c. Big fees have been paid for services of experts.
   d. Holding companies have levied enormous and unjustifiable charges upon the operating utilities.
   e. Large dividends have been paid upon watered stock.

C. The nature and importance of electric power to the nation justify the principle of its ownership by the government.
   1. Electric power has become a vital factor in our national life.
      a. It is one of the fundamental necessities of our present day civilization.
         (1) It is an immense factor in the social-economic well-being of the nation.
      b. The development of electric power to the extent of the tremendous potential market possible to it would immensely influence our future.
      c. The control of power represents the economic control of the nation.
   2. Electric power service is essentially a monopoly and as such is a proper function of government.
      a. It is not normally subject to competition
         (1) Economy and efficiency call for a single electrical unit in any one community or area.

b. It is a public function.
   (1) It is a service to the entire community.
   (2) It is as much a function of government as non-profitable social services performed at public expense.
      (a) It is taken for granted that services in connection with the water supply, public parks, education, the post-office, and many other activities for the benefit of the people will be carried on by the government.
      (b) The mere fact of electric power being revenue-producing does not change its intrinsic nature of an essential public service.

c. The natural resources of the nation, including water power, should not pass out of the control of the government.
   (1) They belong to the whole people and should be used for their benefit.

d. The right of a community to own and operate its electric plant thru its elected representatives should be superior to the rights and gain of a constituted few.

D. There is much present sentiment for government ownership and operation of electric utilities.

1. The private utilities have alienated much public sympathy thru their disregard of fair dealing and public rights.

2. Municipal and government ownership already instituted in many areas have gained large support for such programs.
3. Important groups have long advocated public ownership and operation.

II. Government ownership and operation of electric utilities would be beneficial in every way.
   A. It would bring widespread economic advantages.
      1. Wide reductions in electric rates would be brought about.
         a. The government would use its control over power to establish "yardstick" rates thruout the nation.
            (1) Rates have already been lowered where there is strategic location of publicly owned plants.
         b. The unifying of the industry into public power districts would result in important economies in operation which would permit lower rates.
            (1) It would reduce overhead.
            (2) It would avoid overlapping services.
         c. Rates would be freed from many evils of the present rate structure which tend to keep them high.
            (1) Inflated capital and charges would be done away with.
            (2) There would be no dividends to pay.
         d. Consumers would benefit.
            (1) Savings would be to a great extent passed on to the public.
            (2) Even the smallest consumer would save much.

e. The government could bring about economies not possible to private industry.
   (1) It can secure capital at lower interest.
   (2) It can attain economies in the purchase of materials.
   (3) It can lower actual costs by co-development of other beneficial public projects.
      (a) The development of water power can be made in connection with flood control, navigation, and other far-reaching benefits.
   (4) Unified development of areas could be made under single ownership and control.

f. Rates have been materially lowered in the TVA area and elsewhere.

2. Taxation would be lowered.
   a. Income could be used, in part, to meet the expense of other public undertakings.
      (1) This could be done while still maintaining very low rates.
   b. Many tax free cities exist in the United States because of public utility business.
   c. The loss of taxes now paid by private utility companies would not result in material loss.
      (1) The companies exact tribute rather than pay it.
         (a) The consumers always pay.

(2) Rates are generally higher in the end than taxes.

B. Government ownership would bring many advantages of a social nature.

1. The wider establishment of government projects would benefit labor.

a. They would tend to relieve unemployment.

(1) They would absorb many who are now unemployed.

(2) The projects initiated could take care of much labor in case of new depressive conditions.

b. They would tend to improve labor policies.

(1) The government would have greater regard for workers than private industry has shown.

2. It would bring about far-reaching national well-being.

a. It would electrify the nation.

(1) It would extend the benefits of electricity to most areas not now reached or meagerly served.

(2) It would result in the highest attainable domestic and industrial use in communities already served.

(a) Government promotion of electrical appliances would tend to widespread use.

(b) Government interest in low rates would make economically possible the use of large amounts of current.

b. It would bring about greater comfort, leisure, and happiness.
   (1) Freely available electrical energy would result in immense labor-saving thruout the nation.
   (2) Much decentralization of industry would probably be attained.
      (a) Power for operation could be obtained in any locality
   (3) The decentralization of industry would result in better homes and living conditions than is feasible in our concentrated communities.

C. Government ownership and operation would meet every demand.
   1. The government could manage the industry on a basis comparing favorably with private industry.
      a. Sound business principles could be established thruout.
         (1) It could choose outstanding and technically efficient personnel.
         (2) It could establish sound and efficient administrative principles.
         (3) It could establish uniform and sound accounting.
            (a) Uniform, standardized accounting could be instituted on the most approved principles.
            (b) The policy could be to include all items which would be considered by private business.

(4) There could be established sound allocation of all revenues.

b. An institute of managers of publicly owned utilities could be established.

(1) Such an institute would tend to supply trained personnel and the highest standards of management.

2. It would be practicable.

a. The feasibility of government ownership and operation is shown by extensive undertakings already carried on by the government.

(1) Government has owned and operated successfully many public services, both here and abroad.

(2) Many municipalities are operating electric power plants with outstanding benefits.

(a) Seattle, Cleveland, Los Angeles and others.

(b) Rates and services in many cases outstrip those of privately owned companies.

(3) Federal ownership of water power development has brought widespread benefits.

(a) Boulder Dam and other hydroelectric power projects are widely beneficial.

(b) The Tennessee Valley project is proving an immense influence for social and economic benefit to a wide region.

b. Government ownership and operation of power would be financially practicable.
(1) Projects could be made self-liquidating and self-supporting in a short time.
(a) This is intended in the TVA district.

D. Government ownership and operation would bring no serious drawbacks.
1. Political dangers would not be serious.
a. The danger of bureaucracy, corruption and the spoils system could be materially reduced.
(1) Personnel could be selected on a basis of merit.
(2) The service could be kept free from the influence of changing political administrations.
b. Bureaucracy is not characteristic of of government alone.
(1) Private corporations are sometimes subject to it.
c. High ideals of public service could be instilled.
2. Government ownership and operation would not bring undue loss to private companies and individuals.
a. Private companies would not be unfairly sacrificed.
(1) If conditions made desirable their being taken over by the government they would be fairly compensated.
(2) If not taken over but allowed to operate side by side with government plants, they would

probably realize greater profits than before.

(a) They have done so in the Tennessee Valley area where government activity has been widespread and rates have been drastically reduced.

b. Any inevitable loss suffered by investors is a necessary part of progress.

(1) Their rights must be subservient to those of general welfare.

III. Government ownership and operation is the most effective way to remedy the shortcomings of electric power industry.

A. No adequate improvement can be looked for under private industry.

1. The private utilities have been incapable or unwilling of themselves initiating any far-reaching reforms.

a. In spite of long-standing criticism they have made no effective efforts in the past to control the industry in the interests of the people.

(1) They failed in the past to regulate evils of high finance and holding companies.

(2) They failed to institute rates and conditions beneficial to the people.

(3) Such proposals of reduced rates as have been made under pressure of public demand have been inadequate.

(a) Many small consumers have benefitted little or nothing.

b. The policies of companies in the late depression were characterized by shortsightedness contrary to public interest.
   (1) High rates were maintained when prices and incomes were everywhere depreciated.
   (2) Dividends were maintained or increased.
   (3) Economies were effected by lay-off of workers, reduction of salaries, suspension of dividends on non-preferred stock.

2. Private utility companies have consistently obstructed efforts of the public to obtain better conditions.
   a. Undesired rate reductions have been resisted and fought in the courts.
   b. Policies derogatory to the financial interests of the companies and their stockholders have regularly been opposed.

3. The nature of the utility industry makes it intrinsically opposed to public control.
   a. It is not competitive.
   b. It is motivated by desire for profit rather than public service.
   c. Great financial concentration has given it immense power.
      (1) It has practical command of its own policies.
         (a) It can purchase the highest quality of expert and technical help.

(b) It can exert political influence.

4. Unless the normal channels of public control of monopolies, regulation or the courts, are effective, the only adequate alternative is government ownership and operation.
   a. In many cases only the threat of government ownership has been effective in securing lower rates and improved service.
      (1) It has been demonstrated in many states that only public competition reduce rates.
      (2) In New York City all efforts to curb, regulate or get substantial reductions in rates were unsuccessful until a movement for municipal ownership was started.

B. State commissions are inadequate for effective regulation.
   1. Commissions largely lack adequate powers.
      a. Their jurisdiction over rates is limited.
      b. Their jurisdiction over utilities on many important matters is small or non-existent.
         (1) They cannot regulate many financial matters.
            (a) Economies and expenditures.
            (b) Financial transactions between companies.
         (2) They are deficient in power to regulate holding companies.

c. They are deficient in power to initiate action on their own account.
   (1) Complaints must frequently be brought before them before action can be taken.

2. Commissions are generally handicapped in efficiency as compared with the private utilities with which they must cope.
   a. Their personnel is not always the strongest.
      (1) Salaries are not always sufficient to attract the right men.
   b. They are handicapped with lack of funds.
      (1) There is lack of financial means for adequate work, adequate staff, or adequate technical and expert help.
   c. Utilities have the means to retain the most expert management, technical advisers, and counsel obtainable.
3. The commissions tend to be conservative, rather than active exponents of the people's interests.
   a. They take the judicial attitude rather than one-pointedly represent the people.
      (1) They take into consideration the interests of the companies as well as of the public.
      (2) They hesitate to impair values of securities or otherwise act detrimentally to the companies
4. There is likelihood of control of some commissions by the utilities.

C. Regulation is intricate, expensive, and unworkable.
   1. Rate regulation is highly difficult.
      a. It is difficult to determine an adequate rate base.
         (1) A "fair return upon the fair value" of property may mean market value, original cost, cost less depreciation, reproduction cost new, reproduction cost de-depreciated, or capitalization.
         (2) It is difficult to control factors entering into the rate base.
   2. Hearings are cumbersome, tedious, and expensive.
   3. Court interferences continually block commission regulation.
      a. They invalidate rulings.
      b. Action is carried from court to court.
         (1) If the case is not favorable to the companies, extended court delays permit the enjoyment of profits until the case is concluded.
   4. State regulation is restricted and unworkable.
      a. A large percentage of power crosses state boundaries.
      b. Interstate power cannot be adequately regulated by the state commissions.

D. It is doubtful if federal regulation would be adequate and effective.
   1. The problem is too big to be dealt with by regulatory means.
   2. It is doubtful if the Act of 1935 will effectually regulate the utilities.

a. They will find loop holes to contest control, as in the past.

Conclusion

Electric utilities should be governmentally owned and operated because

I. Conditions call for a change from the present system of private ownership.
   A. The private utilities have failed to meet their responsibilities as trustees of this power for the benefit of the people.
   B. The electric utility companies have exploited the consuming public for the sake of greater profits.
   C. The nature and importance of electric power to the nation justify the principle of its ownership by the government.
   D. There is much present sentiment for government ownership and operation.

II. Government ownership and operation of electric utilities would be beneficial in every way.
   A. They would bring widespread economic advantages.
   B. They would bring many social advantages.
   C. Government ownership and operation would meet every demand.
   D. They would bring no serious drawbacks.

III. Government ownership and operation is the most effective way to remedy the shortcomings of the electric power industry.
   A. No adequate improvement can be looked for under private industry.

B. State commissions are inadequate agencies of effective regulation.

C. Regulation is intricate, expensive and unworkable.

D. It is doubtful if federal regulation would be adequate and effective.

NEGATIVE

I. Conditions do not call for fundamental change in the present system of private ownership of the electric power utilities.

A. Private companies have not failed to meet all reasonable requirements in national power service.

1. The private utilities have built up an immense industry under the sanction of government and at enormous expense.

a. They have covered the country with a network of power.

(1) At the present time more than 85,800,000 people live in wired homes.

2. They have promoted service and use in every reasonable way.

a. They have done all possible to promote the use of electrical appliances.

b. In 1930 the industry spent nearly $1,000,000,000 for the enlargement of plants and facilities.

B. Rates have not been excessive.

1. The burden of electric rates has been slight in comparison with amounts people normally spend on other necessities.

a. The amount spent for electricity has been one of the smallest items in the family budget.

(1) The average bill has been less than $3 a month.

2. Rates have been built up on sound and scientific bases.
   a. They have been designed to cover reasonable service costs and operating expense.
   b. They have been designed to allow a fair return on investment.
   c. The rates have been based upon legitimate values.
      (1) They have not been based upon inflated capitalization.
      (2) They have generally been accepted and approved by public officials.
3. The higher rate base for private utilities is due to their having many costs not charged to public utilities.
   a. Private utilities face additional or higher costs in many ways.
      (1) Franchises are purchased on costly terms.
      (2) They pay higher prices for rights of way.
      (3) They pay higher rates for money.
   b. Private utilities are more scientific in charging full costs to development and operation.
4. Rates have been reduced continually in the past.
5. Drastic reduction of rates cannot be accomplished until the use of electricity is greatly increased.

C. Fairness to the industry requires that they should not be condemned because of alleged past abuses and shortcomings.
   1. Evils have not been universal.
      a. Many companies have been free from all or most of them.
      b. Many utilities have been of the highest type.
      c. Much of the criticism has been due to practices of holding companies and not to operating companies.
   2. Evils have not been worse than in many other industries.
      a. Practically all are applicable to other corporations as well.
         (1) They are common to much capitalistic enterprise.
      b. Values in many other enterprises have been inflated even more.
   3. Evils have not been worse than in many municipalities.
      a. The mistakes made by companies have been matched in many communities.
         (1) Political units have had to contend with corruption, mismanagement and waste.
         (2) They have been subject to extravagance, extortionate taxation, and other evils.
   4. Other criticisms have been unjustified.
      a. The charge of exorbitant profits is unjustified.
         (1) There are heavy operating expenses.
            (a) There is a wide difference between cost at the switch-

board and delivery to consumer.
(b) Maintenance and depreciation are expensive.
(c) Taxes are a heavy burden.
(d) Dividends must be spread over good and bad years.
(2) Other industries enjoy even greater profits.

b. The condemnation of holding companies has not been justified.
(1) Holding companies have been necessary and useful instruments.
(a) They have been financing vehicles to provide credit for expansion and rapid growth.
(b) They have coordinated scattered operations.
(c) They have furnished economic and expert research and service for engineering, management and other activities.

c. The charge of resisting rulings of public service commissions has not warranted condemnation.
(1) It has been necessary to resist too rapid decrease of rates.
(2) The utility companies have generally cooperated harmoniously with commissions.

d. Charges of lobbying and propaganda do not warrant serious criticism.
(1) Many industries and federal bureaus have surpassed the utilities in lobbying.

(2) There is a distinction between propaganda and legitimate publicity.

(3) Commissions, public authorities, departments of government and others engage in much propaganda to popularize their activities.

5. Depreciation of expenditures of utilities in recent years has not warranted condemnation.
   a. The depression caused conditions beyond their control.
      (1) Much normal expansion was prevented.
   b. Government expansion in the electrical field has made the companies fearful and cautious.
   c. The companies are ready to go forward and are planning expansion and greater service.

D. Those who oppose present ownership of private utilities are mainly actuated by prejudice and self-interest.
   1. They are adherents of socialism and anti-American societies.
   2. Certain politicians who expect to benefit politically advocate government ownership.
   3. Machinery companies and municipal engineers who sell equipment and services to municipalities support public utilities.

II. Government ownership and operation would not bring the expected benefits.

A. It would bring no advantages that are not equally or better served by private industry.

1. Service would not be bettered.
   a. Government service is generally inferior to private business.
      (1) It tends to lack enterprise and vigor.
   b. Municipal plants are not so considerate of the interests of customers as private plants.
      (1) They have not promoted services to the same extent.
      (2) They tend to neglect rural customers.
   c. Interruptions of services have been frequent.
2. It is doubtful if there would be any real advantage in rates.
   a. Municipal rates have averaged approximately 15 per cent higher than the rates of private companies.
   b. Where municipal rates have been unusually low, this has generally been offset in other ways.
      (1) Subsidies upon industrial consumers have made possible low domestic rates.
      (2) Lower rates are not unfrequently balanced by higher taxes.

B. Government ownership and operation would be economically unsound.
   1. It would be wasteful.
      a. The extension of government ownership would duplicate and in many cases destroy existing facilities.
      b. It would result in an unneeded surplus of power.

(1) There is already available more than sufficient power to take care of present demands.

2 It would be financially unwise.

a. It would be expensive.

(1) Public ownership would be more expensive than private because of greater cost and less economical management.

b. It would place a heavy burden on the taxpayer.

(1) It would add billions to the public debt.

(2) It would deprive the nation of taxes now received from private companies.

(a) The companies now pay approximately 10 to 15 per cent of their income in taxes.

(3) Government utilities pay little or no taxes.

3. It would be economically injurious.

a. It would jeopardize or destroy existing investments.

(1) It would result in the loss of billions of dollars in utility investment.

(a) It would result in the impairment or loss of existing properties.

(b) It would impair securities held by savings banks, trust companies, life insurance companies.

(c) It would impair the holdings of some millions of other investors.

b. The prosperity of other industries would be affected.

(1) The market for millions of tons of coal would be destroyed if water power is extensively developed.

(2) Railroads would suffer serious loss of freight and revenue.

4. Government "yardstick" determination of rates is unscientific and misleading.

a. The adequacy of governmental cost calculation is questionable.

(1) Costs of projects undertaken by government are frequently distorted.

(a) Valuations are reduced below actual costs.

x. The Muscle Shoals power project was written down to a fraction of its cost.

(b) Other costs are ignored.

(c) Government agencies are not concerned with justifying investments.

(2) If government power was operated on a fully self-sustaining basis it could not compete with privately owned utilities.

b. Conditions under which comparisons are made between private and public utilities are different.

c. A real "yardstick" should be a perfect standard.

(1) It could cover all publicly owned utilities as regards accounting, classifications, keeping of records, giving full publicity to complete statistical records.

C. Government ownership would have other disadvantages.
   1. It would have social disadvantages.
      a. It would greatly increase unemployment.
         (1) It would put thousands connected with the utilities out of employment.
         (2) It would bring unemployment to many in coal mines, railroads, and other industries affected by the change.
      b. It would be harmful to the welfare of the people as a whole.
   2. It would bring political disadvantages and dangers.
      a. It would result in the establishment of bureaucracy.
      b. Jobs would be put under public administration with the resulting disadvantage.
      c. Political management would contribute to public corruption and other ills.
      d. It would make for non-continuity of policy.
         (1) Policy would be constantly interred with by changing administrations.
   3. It would be a very real danger to our democracy.
      a. It would bring fundamental changes in government.

4. It would bring a network of power authorities to cover the entire country.
5. It is outside the proper function of government.

D. Government has not demonstrated its ability to successfully carry on business.
   1. Municipal ownership has failed to a considerable extent.
      a. Municipal plants have been found less satisfactory than private plants.
      b. More than half of those established in the last fifty years have been abandoned.
         (1) Out of 3900 municipal plants established, only some 1800 are in operation today.
   2. Federal ventures in business have been largely unsuccessful.
      a. The federal government has been unsuccessful in many outstanding ventures.
         (1) It has not been a conspicuous success in the postal service.
         (2) It has not been successful in the Inland Waterways Corporation.
         (3) Its operation of the United States Shipping Board was a failure.
         (4) Government operation of railroads was a failure.
   3. Government has made no outstanding success in the conduct of the electric power industry.
      a. The example of Ontario, Canada, has not been the success frequently claimed.

(1) It has made continual encroachments on private enterprise under threat of public competition.

(2) It has suffered heavy deficits.

(a) Heavy losses were accrued by reason of overestimated demand for power.

(b) Power has been sold in some cases for less than ⅓ of its cost.

(3) The area served by it has been subject to heavier taxes than analogous places in the United States.

(4) It has exerted political influence for most of its 30 years.

b. Federal power operation has had no conspicuous success in the United States.

(1) Operations now being carried out under the TVA, and in the Boulder Dam and other areas have been tried out too short a time to prove anything.

E. It is contrary to American principles.

1. It is socialistic.

2. It is unconstitutional.

III. The present system of private ownership with public regulation is the best and most adequate system for national power.

A. Private ownership is based on the most sound and efficient principles for the conduct of industry.

1. It is based on a high standard of competency.

a. It has a high degree of initiative and progress.
b. It has every incentive to economy and efficiency.
c. It has the most competent personnel.
d. It is free from political interference.

2. It has no outstanding disadvantages.
3. Under public confidence and cooperation it can attain all the advantages claimed for public ownership.
   a. Most of the evils charged to the industry have already been overcome.

B. Wise and efficient regulation can be attained.
   1. A sufficient remedy can be found in vigorous state regulation.
      a. Intrastate regulation is adequate.
         (1) The overwhelming percentage of the business is intrastate.
         (2) It is in close proximity to local properties.
      b. Any weaknesses of the present regulation can be overcome.
         (1) More adequate state laws can overcome any drawbacks.
         (2) More efficient regulating personnel can be instituted where called for.
   2. Adequate control is not a matter of ownership, but of the regulating agencies.
      a. It depends on the interpretation of legislation by courts.
      b. It depends on the administration of the commissions.
   3. The objectives of regulation can be effectually attained.
      a. Reasonable rates can be worked out.
         (1) Regulating bodies and the public can force decreased rates.

(2) Improved and standardized plans of rate determination can be worked out.

(a) Rates can be adjusted to some such plan as the Washington, D.C. sliding scale.

b. Adequate service to the consuming public can be effectually attained.

4. The federal Act of 1935 has done much to close up loopholes arising from interstate transmission.

C. Other reforms could be instituted for the better conduct and progress of the private utility industry.

1. The industry could itself initiate reforms, the desirability of which have been apparent by recent criticism.
   a. It could make greater efforts to gain customer goodwill.
   b. It could make rates more simple and intelligible to consumers.
      (1) This would tend to free them from criticism.
      (2) It would better enable consumers to estimate and budget charges.
   c. It could introduce more economical operation.
   d. It could prune valuations.
   e. It could concentrate on operation and service, rather than financial manipulations.
2. Instead of competing with the industry the government could cooperate and materially assist it to realize its full possibilities.
   a. It could cease practices derogatory to private companies.

(1) It could discontinue federal loans to establish municipal plants.

b. It could sell present government power wholesale to the private companies for distribution.

c. It could cooperate in working out agreements as to expansion, satisfactory rate schedules, the development of new power according to need, etc.

d. The government could aid the industry with financial help.

(1) This would enable it to attain welfare benefits more rapidly than it can now do.

(a) The government could carry deficits until new policies became profitable.

(b) Profits, when realized, could go to both.

Conclusion

Electric utilities should not be governmentally owned and operated because

I. Conditions do not call for a fundamental change in the present system.

A. Private companies have not failed to meet all reasonable requirements in national power service.

B. Rates have not been excessive.

C. Fairness to the industry requires it should not be condemned for past alleged abuses and shortcomings.

D. Those opposing present ownership are actuated by prejudice and self interest.

II. Government ownership and operation would not bring the expected benefits.
   A. It would bring no advantages that are not equally or better served by private industry.
   B. Government ownership and operation would be economically unsound.
   C. Government ownership would have other disadvantages.
   D. Government has not demonstrated its ability to successfully carry on business.
   E. It would be contrary to American principles.

III. The present system of private ownership with public regulation is the best and most adequate system for public power.
   A. Private ownership is based on the most sound and efficient principles.
   B. Wise and efficient regulation can be attained.
   C. Other reforms could be instituted for the better conduct and progress of the private industry.

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Utilities Publication Company. 35 E. Wacker Drive. Chicago.

GENERAL DISCUSSION

EVOLUTION OF FEDERAL CONTROL OF ELECTRICAL POWER[1]

Prior to 1890, in which year the first hydroelectric plant in America was completed, Congress had allowed the states undisputed control over the waters within their respective boundaries. But in the Rivers and Harbors Act of that year the Congress prohibited the creation of any obstruction, not affirmatively authorized by law, to the navigable capacity of any waters under jurisdiction of the United States. This meant that every dam had to be specifically authorized by the Congress. By this act the Congress gave notice to the states that thenceforth it proposed to assert its jurisdiction in this important field. In 1899 the control which Congress had established in 1890 was enlarged and extended.

A parallel problem to that of federal control of navigable waters was the control which should be exercised over our great public domain in the West, which embraced enormous potential water power development. Prior to 1896 lands were patented by the federal government without regard for water power possibilities. In this way many of the best power sites were practically given away into private ownership.

In 1896 the Congress authorized the Secretary of the Interior to permit the use of rights-of-way not exceeding 40 acres on public lands and forest reservations for power purposes, and in 1901 this authority was further defined and such permits were made revocable.

The whole issue of the power of federal government

[1] From article by Frank R. McNinch, Chairman, Federal Power Commission. *Journal of Land and Public Utility Economics.* 12:112-19. May, 1936.

to control this rapidly growing industry became acute about 1905, and for the next 15 years continued to be one of the most vexatious and vital problems of the government. Those who sought to restrict or defeat federal control urged that the only power Congress has with respect to our navigable streams is to protect and promote their navigability; that Congress has no rights in potential water power developments; that the rivers are the property of the several states thru which they flow, and of the riparian owners; and that, hence, the Congress has no right to charge tolls or license fees for use of navigable waters for power purposes nor to exercise any control except in protection of navigation.

In vetoing the Rainy River Bill in 1908, President Theodore Roosevelt, in his message to Congress, brought vividly to the attention of the people the fact that the country was threatened by a monopoly far more powerful, because in closer touch with our domestic life, than any theretofore known. This message is one of the great national landmarks of conservation of our water power resources and for their development under federal control and regulation. In this message, President Roosevelt criticized the Act of 1906 for many vital omissions:

> A definite time limit is one of these important omissions. Each license should be issued to expire on a specified date without further legislative, administrative or judicial action. Every permit to construct a dam on a navigable stream should specifically recognize the right of the government to fix a term for its duration and to impose such charge or charges as may be deemed necessary to protect the present and future interests of the United States.
>
> This natural wealth [water power] is the heritage of the people . . . We are at the beginning of a great development in water power. Its use in electrical transmission is entering more and more largely into every element of the daily life of the people. Already the evils of monopoly are becoming manifest.

In 1909 the Congress passed a bill authorizing construction of a dam across the James River in Missouri, and President Roosevelt vetoed that bill. In his veto message he laid down in considerable detail specific con-

ditions which every water power grant should embody, including a reasonably limited opportunity to develop a project, the right to annul the grant if the project were not built within a reasonable time, a requirement for maximum development, license fees adjusted to profits, and a maximum license period of 50 years. With his characteristic forthrightness he said:

> The great corporations are acting with foresight, singleness of purpose and vigor to control the water powers of the country. They pay no attention to state boundaries and are not interested in the constitutional law affecting navigable streams except as it affords what has been aptly called a "twilight zone" from any regulation. . . I esteem it my duty to use every endeavor to prevent the growing monopoly, the most threatening that has ever appeared, from being fastened on the people of this nation.

Under his leadership the forces of public conservation and control won their first significant victory. The power interests withdrew from further contest, awaiting a more favorable season to renew their efforts for legislation which would permit further encroachment upon the public power resources with a minimum of federal control and a maximum of private profit.

In 1912 the Congress passed a bill authorizing erection of a dam on the Coosa River by the Alabama Power Company. President Taft vetoed this bill because it lacked regulatory provisions and did not assess any charge or fees against the power company for use of this navigable stream. In his veto message he said:

> If the federal government chose to build this dam itself in aid of navigation, its right to the water power incidentally created would be beyond question. When, instead of building the dam itself, it builds the dam by an agent, as proposed by this bill, I believe it to be equally clear that the dam and all its incidents, including the water power created, is within the regulative power of the federal government in respect to navigation. . . .

This veto was a second serious setback to those who looked with envious eyes upon the potential wealth in the nation's water power. The power industry being unwilling to submit to regulatory measures, the develop-

ment of water power on navigable streams was practically abandoned from the time of this veto in 1912 to the enactment of the Federal Water Power Act in 1920.

During this same period an organized effort was made by certain groups from the West to open up the public domain to private entry and development. The federal government was criticized for withholding vast areas of the public domain. Western states felt that they had a grievance in that much of the lands within their boundaries were held free from their power to tax or develop. Seeking to capitalize this view, which was rather generally held in the West, and appealing also to the South, public sentiment being strong for development of the vast resources of these regions, emissaries of the power interests asserted that development of the water power in the public domain and in the navigable streams would not be undertaken, and the development of these great sections of our country would be retarded, if restrictions and regulations were prescribed for development of these water powers. Eastern capitalists, still bent on further exploitation of these public resources, raised the false alarm of states' rights and appealed to the traditions of democratic freedom by demagogic denunciation of a federal bureaucracy. They painted an ugly picture of a huge, ruthless, overpowering federal juggernaut which would bear down on and crush local initiative and enterprise. They pictured the states as being stripped of their reserved powers and prophesied rapid defacement of state lines. Altho these alarming arguments were made more than a generation ago, they have a familiar ring and form the basis of the attack today upon the power policies of Congress and the national administration.

But if the constitutional case against the program of the conservationists of the 1890's and in the early 1900's was vigorously assailed, it was with equal vigor and greater ability defended by those who were determined

to preserve our great sources of water power for future generations. On the floor of the Senate such giants as John Sharp Williams of Mississippi and Elihu Root of New York raised their voices on behalf of the regulatory power of Congress. These leaders and many other statesmen, regardless of party affiliation, declared that the water power upon public lands and in navigable streams belonged to the people of the nation and that Congress could and should regulate and dispose of it for the people's benefit. They asserted that if the government of the United States had the right to build a dam in aid of navigation, it had the unquestioned right to the water power which was created by such dam—a doctrine which was reaffirmed only a few weeks ago by the Supreme Court of the United States in the notable Tennessee Valley Authority decision. They further asserted that if, instead of building a dam itself, the federal government should designate a private power company to construct the navigation improvement, the water power incidentally created by such dam is within the full regulatory power of Congress with respect to navigation.

The fifteen-year battle of the conservationists to safeguard the nation's water power came to a successful climax in 1920 when, under the courageous leadership of Woodrow Wilson, the Federal Water Power Act became law. While this act was under consideration by Congress, one of the most powerful lobbies ever known to Washington opposed its adoption and challenged its constitutionality. In this last drive to defeat a comprehensive regulatory act the records show the prophesy mongers sadly foreseeing the paralysis of private initiative, the destruction of private industry, and a rapid decline into socialism and government ownership and operation of the whole industry.

The answer to the power Jeremiahs of 1920 and of the preceding decades is found in the fact that prior to 1920 only 1,430,000 horse power had been developed on

public lands and navigable streams, while during the 15 years subsequent to enactment of the Federal Power Act, there has been developed by the industry water power in excess of 16,000,000 horse power, an annual development almost equal to the total preceding development.

This new statute established a national power policy under which our water power resources might be developed and operated by private interests, by states or municipalities under license issued by the Federal Power Commission. The act provided for a maximum license period of 50 years, for a reasonably limited period for construction to prevent "squatting" on public resources for speculative purposes, and for the regulation of rates, service, and securities of licensees where no state authority is exercised over these subjects. It further provided for a uniform system of accounting by licensees; for determination by the Commission of the actual legitimate cost of each power project to insure against capital-structure inflation; and for the assessment of fees to cover cost of administration of the act and of reasonable compensation to the government for use of government lands and of federally constructed dams.

One of the most important provisions of the Act of 1920 is the right of recapture by the government of these valuable resources as developed, upon the termination of the license, and for the taking over of the project property by the government or by a state or municipality upon payment to the licensee of its net investment in such property or its value, if that be less. Thus was laid down a sound and secure basis upon which water power development might go forward and which, instead of holding any discouragement of private initiative or threat to private capital, offered for the first time assured and full protecton to all legitimate private investment. The Congress builded much more wisely and constructively than its critics knew, and those who were the most vigorous opponents of this legislation found under it

shelter and protection for every legitimate right, and incentive to go forward with the most phenomenal development of water power in the whole history of the industry.

The Federal Power Act of 1935 was born of this epochal development in the power industry to meet social needs and strike down uneconomic practices which had grown up during this period of rapid expansion. On March 12, 1935 President Franklin D. Roosevelt sent a bold and uncompromising message to Congress, recommending the enactment of legislation with respect to the great holding company systems, to prohibit admittedly evil practices incident thereto, such as the collection of exorbitant fees for services from their controlled operating companies, and otherwise greatly to extend federal control over this industry. This message marked the beginning of a titanic and ultimately successful battle for establishment of another and higher landmark of federal control.

When the state of Missouri, a decade and a half ago, challenged an act of Congress as an unconstitutional interference with the right of the states reserved by the Tenth Amendment, the Supreme Court said: "We must consider what this country has become in deciding what that amendment has reserved." The Federal Power Act of 1935 is properly to be interpreted in the light of "what this country has become" in the field of electric power, not only in considering its constitutional validity but also in passing upon the wisdom of its policy.

Examination of the national power map reveals graphically what this country has "become" in the field of electric power as a result of the extraordinary development in the technical arts within the past two decades. It shows more than 160,000 miles of high-tension transmission lines spreading like a network across the political boundaries of sovereign states. More electricity flows in interstate commerce today than was generated in the

entire United States in 1913. Electric energy has been taught by the genius of engineers, inventors, and scientific men to disregard the political boundaries of sovereign states.

Total generation in the United States in 1933 was in excess of 84 billion kilowatt hours of which 15 billion (18 per cent) was transmitted interstate; whereas in 1928 only 10.7 per cent of the power generated moved in interstate commerce. Further illustration of the proportions to which interstate transmission has grown is found in Table I.

TABLE I. EXAMPLES OF INTERSTATE TRANSMISSION OF ELECTRICITY, 1933

State	Kilowatt Hours Generated (000,000 omitted)	Kw. Hrs. Exported: Amount (000,000 omitted)	Kw. Hrs. Exported: Per cent of Total Generated	Kw. Hrs. Imported: Amount (000,000 omitted)	Kw. Hrs. Imported: Per cent of Total Generated
Delaware	6	4	66.0	133	2200.0
Illinois	6,205	985	15.8	1,088	17.5
Indiana	2,446	1,045	42.7	423	17.3
Maryland	1,742	1,691	97.0	1,095	63.0
New Hampshire .	585	342	59.0	....	.....
Vermont	464	294	63.5	....	.....

The old isolated plant which once generated and distributed electric energy in the local community has, for the most part, been swallowed up by the great interstate power systems. Distribution of electric energy to the factory, home, and farm is still local, but that is no longer generally true of generation and transmission. The local distributing system now oftentimes receives its supply of energy from huge generating plants in adjoining or distant states thru transmission networks that cross the borders of one or more states.

Such was the picture unfolded before the Congress which in 1935 was considering this power problem. Here was a new industry which had pushed out into interstate

commerce; an industry recently transformed from one of purely local character into one which was still local in some aspects but had now become regional and national in other important respects. Out of this change had come problems of vital social and economic concern, both to the states and to the nation. States were no longer able adequately to regulate utilities whose operations had expanded beyond their jurisdiction; and since Congress had provided no regulation, a gap had appeared in public regulation, a twilight zone in which interstate activities of profound significance to the public were carried on without the restraint of any public regulatory control.

Not many years ago a decision of the Supreme Court of the United States focussed attention upon this anomalous situation. A power company in Rhode Island sold part of its energy to Rhode Island consumers and the remainder to a Massachusetts company which distributed the energy locally in Massachusetts. The Rhode Island Commission concluded that consumers in that state were being burdened with unreasonably high rates because that company's wholesale rate to Massachusetts was unreasonably low and the difference had to be collected from Rhode Island consumers. The Commission ordered a new wholesale rate. In that widely known Attleboro case the Supreme Court held that electric energy transmitted from Rhode Island to Massachusetts constituted interstate commerce. It further held that neither the sending state nor the receiving state could control the wholesale rate of the energy which thus flowed in interstate commerce. The power, the Court said, belonged to Congress, and because Congress had not acted there existed a gap in public regulation; a field in which the interstate activities of the company involved were beyond any public control.

Congress, in the new Power Act, has closed this gap. The Federal Power Commission now has authority to investigate and fix reasonable interstate wholesale rates

and to regulate interstate service and certain other interstate activities. Congress asserted jurisdiction over a subject with respect to which the states were without constitutional power. At the same time it has insured to states complete control over local distribution rates.

I now come to another provision of the new law which promises to become one of its most important provisions. It is a new departure in power regulation. It is based upon a fact not generally appreciated, yet a fact of tremendous importance. We have commonly regarded rate control as the primary objective of public regulation. The new act, however, is predicated upon the proposition that rate control, in and of itself, is not sufficient to achieve an adequate supply of electric energy at the lowest economic cost; and that, while rate control is necessary, such control alone cannot accomplish the desired objective unless the power facilities and resources of the country are properly coordinated in a geographically and economically integrated power system.

To this end, the new Power Act contains provisions for an interconnected and coordinated power system "for the purpose," to use the language of the statute, "of assuring an abundant supply of electric energy thruout the United States with the greatest possible economy and with regard to the proper utilization and conservation of natural resources." The Federal Power Commission is directed to divide the country into the most economical regional power districts and to accomplish interconnection and coordination of power facilities and resources within those districts and between those districts. This policy is not to be primarily one of compulsion, but rather one of voluntary action by the companies themselves, supplemented by a compulsory power where this opportunity for voluntary action has not been exercised. It is the duty of the Commission to promote and encourage interconnection and coordination; and authority is given to issue a compulsory order to inter-

connect or furnish power only upon the petition of another power company or of a state public service commission, and then only upon evidence that such interconnection would be in the public interest.

These provisions for coordination of facilities and resources imply no destruction of private initiative nor impairment of capital invested, as some have feared; nor do they involve any unreasonable interference with the functions of private management. The Congress has merely recognized the power industry as a great national agency whose rightful duty is to render maximum service at minimum economic cost to the public.

What moved Congress to assert this jurisdiction over the future power development?

Congress was very largely influenced in its action by evidence which was before it in various government reports issued since the World war. Those reports, recording studies made by leading engineers of private industry in cooperation with engineers of the federal government, told a story of a piecemeal power development which had laid an expensive burden upon the consuming public of the United States. They told of uneconomic division of territory, wasteful duplication of property, and lack of engineering and economic unity. The documentary evidence indicated clearly the great need for an interconnected and coordinated power system.

Congress was, no doubt, influenced also by its knowledge of what had happened in the field of railroad development; as it had repeatedly been told that the railroad industry was carrying its greatest burden in the enormous waste that accompanied its uncontrolled expansion, and that the most complete control of railroad rates had been unable to overcome the results of wasteful duplication of property. Congress in this act seeks to save the power industry from the fate which

had befallen the railroads under the policy of uncontrolled expansion.

Still another reason may have moved Congress to the adoption of this policy of coordination. A report prepared by distinguished engineers of the United States Army and published in 1921 by authority of the Secretary of War tells in a dispassionate but impressive manner of the exhaustion of the supply of our electric reserves in our principal manufacturing centers soon after our entry into the World war. This report tells us how the war program of the United States was seriously threatened by the inability of our electric utilities at that time to supply the needs of our war industries which were producing equipment for our forces on land and on sea. That war did not come upon us unexpectedly; yet it found us without any available, dependable supply of the electric energy which was needed for national defense. It found us without any plan for the interconnection and coordination of our power resources and facilities to meet the national needs.

Now when Asia, politically, is resting upon a volcano which may erupt at any time, when peace in all Europe is threatened by national suspicions and grave controversies, this report, *The Power Situation During the War,* deserves the serious consideration of thoughtful citizens.

Congress, in the new Power Act, has willed that this situation shall not happen again. This act is based upon the proposition that the interconnection and coordination of power resources and facilities are necessary to this nation's welfare in time of peace, and essential to its safety in time of war. The Federal Power Commission is required, as a part of its regular task, to investigate and keep current the facts and information concerning our power resources, facilities, and requirements, information such as was not available to the nation at the outbreak of the World war. The act further

gives the Commission authority to require temporary connections and to require the generation, transmission, and interchange of power in time of war or other national emergency; and it grants to the Commission control over the export of electric energy into foreign countries so that we may keep our electric energy at home if and when we need it.

The Federal Power Act of 1935 recognizes the vital stake which this nation has in the electric industry. It envisages an enterprise big with opportunity for the industry and the public alike. If the Federal Power Commission is given the wisdom to administer this new and far-reaching law soundly and with due regard to the economic and social factors involved, and if it is aided by the genuine and whole-hearted cooperation of the members of the industry, this law should bring real and substantial benefits to investors, consumers, and the general public alike.

DEVELOPMENT OF ELECTRIC POWER IN THE UNITED STATES [2]

Less than fifty-three years ago the electric industry in this country was born. From its very small beginnings in New York City it has grown in this period into a great industry which penetrates into every corner of the social and economic life of the country. Few industries, affecting the welfare of the people to the extent that this one does, have had such a rapid growth. Present conditions reflect this. The kaleidoscopic pattern of public and private ownership of power systems and of federal power development has been determined not only by the method, but also by the very speed with which the industry had to grow to satisfy the ever-pressing need for more power. It is the product of many forces and

[2] United States. Federal Power Commission. National Power Survey. Power Series no. 1. Interim Report. p.5-6.

numerous individuals working without plan or coordination to supply electrical energy over a vast area.

Operation of the first Edison central station distribution system was begun in New York City on September 4, 1882, the prime movers being steam engines. A few days later the second Edison station began operating at Appleton, Wisconsin, the electric generator in this case being driven by water power. These two plants were the nucleus of the electric power industry which now has a total generating capacity of 45,000,000 horsepower. The two methods of power production, by falling water and by steam, represented in these primitive plants, have continued to be the principal methods used in the production of electrical energy, the development in different regions being determined by the relative availibility of the natural resources of power or fuel.

In its first decade the industry was relatively small; generating plants averaging not more than 200 to 300 kilowatts in capacity with a maximum not exceeding 600 kilowatts. The distribution area served by one plant was restricted by the then limited knowledge and ability to transmit power, and seldom exceeded one square mile. The large cities were served by several groups of isolated power systems from small steam stations, and each small town or village enterprising enough to desire electric service had its own plant. As the ability to transmit power over greater distances increased, the separate distributing systems in the large cities gradually grew together, were interconnected, and the areas formerly supplied by separate generating stations then received their supply from substations to which the energy was transmitted from larger stations. Continuance of this growth in metropolitan areas and the development of transmission networks serving many small communities from one or more principal central generating stations has produced the great regional power systems of today. In those areas where waterpower developments were predominant, the extension of transmission lines pro-

ceeded much faster than it did in the fuel-producing areas, because the water power had to be brought to the load from long distances whereas it was more economical to locate steam plants at or near the load center. This has brought about such a centralization of power production that approximately 73 per cent of the energy generated for public use in the United States is now being produced in only 222 generating plants.

In the early part of the twentieth century the then infant industry became conscious of the fact that its usefulness extended not only into the home for lighting but into commercial and industrial activities as well. Alternating current motors were coming into general use. The industries of the country were expanding rapidly and there was a continually greater demand for more power to run the mills and factories. Attracted by the opportunity to supply this demand, the power industry also expanded its activity; companies and generating plants increased in number and power outputs grew. In 1902 there were approximately 3,600 privately and publicly owned electric gnenerating systems supplying the public. By 1917 they had grown in number to 6,500. The period of mergers and consolidations which followed the World War reversed this trend so that today there are approximately 1,600 privately owned and 1,900 municipally owned electric utilities operating in this country.

To keep pace with the rapid expansion of the industry, new technical developments in the art of producing and transmitting power appeared with almost bewildering rapidity. The steam turbine was introduced as a new type of prime mover. From 5,000-kilowatt capacity in the first all-turbine steam-generating plant, installed in 1905, the size of generating units has increased rapidly, so that today units of 50,000- and 75,000-kilowatt capacity are not uncommon. Improvements in the efficiency of waterpower generating units, while not so spectacular as those in the steam power field,

were also made. Larger and more efficient water power plants have been built.

The Diesel oil engine was introduced in this country in 1898. Its progress in the field of power production has been slow, but it has certain recognized advantages which are rapidly overcoming early prejudices against it. As of January 1, 1934, the installed capacity in Diesel or other internal-combustion engine plants generating electricity for public use was approximately 500,000 kilowatts. Of this total about 280,000 kilowatts were installed in municipally owned plants. It is estimated that about 5,000 kilowatts of additional internal-combustion engine capacity were installed in municipal plants during 1934. At the same time developments in the art of transmitting power have permitted the extension of transmission lines for the serving of large areas from central electric-generating stations.

A few of the outstanding transmission-line developments are:

1. The 285,000-volt double tower lines of the city of Los Angeles, from Boulder Canyon to Los Angeles, now under construction.

2. The Big Creek lines, also feeding Los Angeles, about 240 miles long and operating at 220,000 volts.

3. The 220,000-volt lines of the Pacific Gas & Electric Company extending from the Pit River development in northern California to San Francisco Bay and southward to Fresno.

4. The 220,000-volt network interconnecting the great industrial districts of Philadelphia, northern New Jersey, and the anthracite mining fields and connecting with the Cononwingo water power development on the Susquehanna River and the Wallenpaupack development in the Delaware River Basin.

5. The 220,000-volt lines of the New England Power Company from its Comerford (Fifteen Mile Falls) water

power plant on the Connecticut River in northern New England to the outskirts of Boston.

The United States Geological Survey reports as of December 1, 1934, a total of approximately 33,800,000 kilowatts of generating capacity installed in private and municipal electric utility plants in the United States. Of this total aproximately 2,000,000 kilowatts are installed in municipal plants. An additional 2,000,000 kilowatts are installed in plants of electric railways, federal and other public works, and industries engaged in supplying public service.

The size of individual electric power systems varies from plants owned by an individual, serving ten to a dozen customers and supplying a few thousand kilowatt hours per year, to systems serving over 2,000,000 customers. Twenty-two systems each produced over one billion kilowatt hours in 1933. The largest system, consisting of several operating companies, is the Niagara Hudson Power Corporation of New York with a production for 1933 of slightly over 5 billion kilowatt hours. The system serving the largest number of customers is the Consolidated Gas Company of New York. Individual plants vary from a few kilowatts to 770,000 kilowatts in capacity.

Power production by water power plants, which totals 41 per cent of the total production for the year 1933, was chiefly in the Northeast and Southeast regions and on the Pacific slope. This can readily be explained by the greater concentration in those zones of streams capable of producing power economically.

By far the greater part of all electric energy generated in the United States is produced in fuel-burning plants. All fuels can be used in producing power with equal facility. They thus compete one with another solely on price and comparative investment in fuel-burning equipment. In the great industrial area lying east of the Mississippi River and north of the Ohio and

Potomac Rivers, where 70 per cent of the electricity of the country is produced, and including in its boundaries the major portion of the great Appalachian coal fields, coal is the predominant fuel.

The Southwest and the Pacific coast depend on oil and gas for their fuel. Along the Atlantic seaboard large quantities of oil are used, due to low water-transportation rates, but coal is also the important fuel in that area.

FEDERAL GOVERNMENT AND THE PUBLIC UTILITIES [3]

By the end of 1932, the public had become fully conscious of the grave abuses which had grown up in the electric utility industry, largely as a result of the activities of unscrupulous financiers and promoters and the devices adopted by holding company managements to sustain the flimsy financial structures which had been built up during the boom period. Among these devices were extravagant "write-ups" of the capital of operating companies, the charging of excessive fees by so-called management and service companies, the payment of large salaries and bonuses to holding company officers, and the sale of tremendous issues of securities which had few, if any, tangible assets behind them. There is no necessity to review the evidence regarding the extent and character of these abuses. They are fully set forth in the investigations of the Federal Trade Commission and have been freely admitted in the testimony and public statements of utility executives.

In the mad scramble of promoters and financiers to secure control of operating companies as a foundation for the issuance of holding company securities, an illogical and economically indefensible situation had been created as regards the operating efficiency of the indus-

[3] From address by Basil Manly, Vice Chairman of the Federal Power Commission, before the Institute of Public Affairs, University of Virginia, July 15, 1936. p 1-6.

try. To secure the highest efficiency and lowest operating costs, it is desirable that the properties lying within any particular geographical region should be closely coordinated and operated as a single system. This objective had been achieved by some systems, but, generally speaking, the power map of the United States in 1932 closely resembled a crazy quilt. Here is a map showing in different colors the areas served by the principal electric utility systems of the United States in 1935. This map represents a considerable improvement over the situation that existed in 1932, but a mere glance is sufficient to indicate the extent to which properties owned by the same system were scattered thruout the length and breadth of the land.

In 1932, as shown by the official statistics of the Census of Central Electric Light and Power Stations of the United States and the similar Census of the Dominion of Canada, the residential customers of the United States were paying an average of 5.50 cents per kilowatt hour for electricity whereas the residential customers of Canada were paying only 2.22 cents per kilowatt hour. The average annual consumption per residential customer in the United States was 611 kilowatt hours and in Canada, 1208 kilowatt hours. The figures which I have cited for Canada, it should be noted, relate to the entire Dominion and thus cover not only the publicly owned utilities of Ontario but also the privately owned utilities of Quebec and other provinces. Making all reasonable allowance for the fact that Canada has an abundance of relatively cheap water power in most of her provinces and for other elements which might affect the comparison, it would appear that there should be no sound reason in the nature of things why the user of electricity for residential purposes in the United States should pay more than twice the cost per unit charged his neighbors across the Canadian border.

The efforts of state public service commissions to reduce domestic rates for electric energy in the United

States had been and were still largely unsuccessful in 1932 in spite of the great decrease in the price of other commodities brought about by the depression. While there were other elements in this lack of achievement on the part of the state regulatory agencies, two of the obstacles which they encountered were outstanding. The first was the almost universal resort by the utilities to the federal courts for injunctions and restraining orders to prevent the operation of such reductions as were ordered by the state commissions; the second was the declaration by the Supreme Court of the United States in the *Attleboro Case* that the state commissions had no control over electric energy transmitted in interstate commerce. No federal agency then existed for the regulation of such interstate transmission or for any other kind of regulation of the electrical industry except as regards the granting of licenses for the development of water power on navigable streams and within the public domain of the United States.

There were in the United States in 1932 something more than 6,200,000 farms, but of these only 613,753 were being supplied with electricity by both privately and publicly owned utilities. In the majority of cases, the farm customers who desired to receive electric service were required to pay not only relatively high charges for electric energy but were also required to finance line extensions which usually remained the property of the constructing utility. Line extension costs generally ranged from twelve hundred to as high as three thousand dollars per mile, and as a result electric service was beyond the reach of the great majority of American farmers.

These are some of the high spots of the situation that existed in the electric light and power industry when the present administration assumed office in March 1933.

We shall now examine briefly the principal steps that have been taken by the federal government during the past three years to meet this situation.

We may first consider the principal provisions of the legislation sponsored by the administration for the purpose of eliminating—as far as the federal jurisdiction could reach—the admitted evils and abuses above described and for the further purpose of establishing effective regulation in the hitherto unregulated field of interstate transmission of electric energy.

This legislation—the Public Utility Act of 1935—consisted of two parts: First, the so-called Holding Company Act which was entrusted to the Securities and Exchange Commission, and the second, the Federal Power Act which was entrusted to the Federal Power Commission.

The principal feature of the Holding Company Act and the one which was most bitterly contested by utility executives and lobbyists is the so-called "death sentence" contained in Section 11. Without arguing either the merits or the constitutionality of this provision of the act, which is now before the federal courts in the Electric Bond and Share case, it should be pointed out that, because of exemptions in the act, the provisions for compulsory reorganization of holding companies—the "death sentence"—would have applied to only a relatively small proportion of such corporations. All holding companies operating within the borders of a single state or operating an integrated system in two or more adjoining states were specifically exempted. This would eliminate, it would appear, such great holding company systems as Consolidated Gas of New York, the Pacific Gas and Electric Company of California, the Niagara Hudson System, the New England Power Association, the Duke Power Company, and a very considerable number of other outstanding utility systems. In addition, the Commission was required by the act to permit a registered

holding company to continue to control one or more additional integrated utility systems, if it should find that each of such additional systems could not be operated as an independent system without the loss of substantial economies, if the continued combination of such systems under holding company control should not be so large as to impair the advantages of localized management, efficient operation, or the effectiveness of regulation. The field covered by this clause was further de-limited by the definition of an "integrated public utility system" which is drawn in such broad terms as to cover almost any system capable of physical interconnection and integrated operation.

Whatever may be the ultimate effects of the highly controverted sections of the Holding Company Act, this law in its entirety is now before the federal courts in the Electric Bond and Share case. Those who have confidence in the integrity of our courts and their regard for the protection of property rights may be assured, it would seem, that this legislation will not be made effective unless the court finds that it will not destroy any property rights or interests or endanger any corporate structure which is functioning within the limits prescribed by the Constitution.

The second part of the Public Utility Act of 1935, the Federal Power Act, has two principal objectives: First, to establish effective regulation of those companies engaged in interstate transmission and sale of electric energy, and, second, to provide for the compilation and publication of essential information regarding the entire electric light and power industry, including both publicly and privately owned utilities of every kind thruout the United States. The constitutionality and necessity for federal regulation of this field of interstate commerce is so generally admitted that no extended discussion appears to be necessary. Its principal features are control of interstate rates, approval of mergers, acquisition

of properties, issuance of securities by interstate utilities, and the establishment of a uniform system of accounts for such corporations. Unusual provision is made for the fullest measure of cooperation between the Federal Power Commission and the state utilities commissions and for the retention by the states of all their recognized and traditional powers as regards local rates and services.

A word should be said about the provisions for establishment in the Federal Power Commission of a clearing house of information regarding all phases of the electric industry. In my opinion, this is perhaps the most important and constructive provision in the act. Until the passage of this legislation and certain joint resolutions which preceded it, there did not exist any national source of official information regarding this great industry, except the five year Census of Central Electric Stations and the current statistics of the Geological Survey regarding electric plant capacity and output. During the past three years, the Federal Power Commission, under the authority of special executive orders and joint resolutions of Congress, has conducted two nation-wide surveys which have already yielded essential information of great immediate and permanent value. The National Power Survey has provided for the first time an engineering study of the power resources and requirements of the entire United States. The Electric Rate Survey has set forth in simple and understandable terms the rates charged electric consumers of all classes in each of the forty-eight states. The mere publication of this information has not only aroused wide-spread public interest but has led to the adjustment of large numbers of rates in every part of the United States which were shown to be out of line with those charged in communities similarly situated. The reports of these surveys have received commendation both here and abroad as establishing for the first time a sound

factual foundation for the understanding of the problems of the electric light and power industry.

Another provision endowed with great constructive possibilities is that directing the Federal Power Commission to promote the voluntary interconnection and coordination of power facilities for the purpose of assuring an abundant supply of electric energy thruout the United States with the greatest possible economy and with regard to the proper utilization and conservation of natural resources. While such coordination must be secured thru voluntary action except in case of war or other national emergency, the economies that may be attained thru proper coordination are so great that substantial results may reasonably be expected to be achieved in due course.

To supplement this legislation for federal regulation and open the way for more expeditious and effective state regulation, the Congress also enacted the Johnson Act substantially excluding the lower federal courts from jurisdiction over the decisions of state utility commissions. It may be noted that this legislation was endorsed by Governor Alfred M. Landon as "the most constructive piece of utility legislation, in my judgment, that has been offered in the last decade."

In addition to its legislative program for regulation and control of holding companies and interstate utilities, the present administration has so shaped its public works program as to contribute materially to the achievement of its avowed objective of assuring cheap and abundant power for all the people. The greatest of these undertakings and that which has attracted the widest public attention is, of course, the Tennessee Valley Authority. For a correct understanding of this great project, it is necessary to review briefly the foundation upon which it rests. During the World War, the Wilson Dam at Muscle Shoals was constructed for the purpose of providing a source of cheap electric energy for the manu-

facture of nitrates. The act authorizing its construction specifically provided that it should forever remain the property of the United States and should not be permitted to fall into private hands. In spite of this prohibition, after the war had ended, there began a struggle on the part of various private interests to secure control of this valuable property. This contest continued for twelve years and until the present administration came into office, the Wilson Dam had been operated only for the purpose of supplying power to the Alabama Power Company at the rate of two mills per kilowatt hour.

There was also a very strong demand for the development of the Tennessee River for purposes of navigation and for the establishment of effective flood control which had been completely endorsed by the Corps of Army Engineers after a protracted investigation. In order to promote such navigation and flood control and at the same time secure the development of the vast power resources of the Tennessee River, there was enacted, during the administration of President Hoover, legislation providing that the federal government would reimburse any private corporations which might construct high dams on the Tennessee River for the purpose of power development by an amount equal to the estimated cost to the United States of developing navigation by the construction of a series of low dams. This would have given to private interests a very substantial bonus for the development of the power resources of this region. But, with the exception of an application by a promoter for the licensing of a dam at Aurora Landing, none of the private utilities moved to take advantage of the provisions of this act. The point that I wish to emphasize is that long before the beginning of the present administration, the Congress, thru an act signed by President Hoover, recognized the desirability of the improvement of navigation on the Tennessee River thru

the construction of high dams and the incidental development of the vast water power resources of the region.

No results having been secured by this permissive legislation, one of the first acts of the present administration was the creation of the Tennessee Valley Authority to construct the public works necessary to provide for navigation and flood control in the Tennessee River Basin, for the effective and useful operation of the already constructed Wilson Dam, and to secure the development of the vast water power resources created as an incident to the construction of the dams necessary for navigation and flood control. The Authority was also empowered to carry out the prevention of soil erosion within the river basin and other activities designed to protect the nation's resources and promote the welfare of that section of the country.

Other great public works in other parts of the country were also initiated by this administration for the improvement of navigation, flood control, irrigation, and other recognized federal purposes. At all of these projects, water power was necessarily created as an incident to the construction of the dam which impounded the flowing waters. The most important of these are the Bonneville Dam on the Columbia River in Oregon, the Grand Coulee Dam at the headwaters of the Columbia River in Washington, the Casper-Alcova Irrigation Project in Wyoming, the Fort Peck Dam for improvement of navigation and flood control on the headwaters of the Missouri River in Montana, and the Central Valley Project in California.

There is nothing new about either the construction of such great public works projects on the waterways of the United States or in the development and sale of the water power created as incident to their construction. The Boulder Dam on the Colorado River was authorized during the administration of President Hoover and for almost a generation the federal government has been con-

structing irrigation dams and selling the electric energy incidentally created thereby. But it has been charged by critics of the present administration that those projects previously constructed were the result of careful study and mature consideration, whereas certain of the projects constructed by the present administration were hastily chosen. Let us look at the record. It will be fair, I believe, to examine the facts with regard to the Grand Coulee Project, which has been the shining target for attack by critics of the administration. The record shows that this project of constructing a high dam at Grand Coulee for purposes of irrigation, flood control, and the improvement of navigation with the incidental development of a tremendous amount of electrical energy, had been recommended by the Corps of Army Engineers and the Bureau of Reclamation after a very extended investigation many months before the present administration came into office. These two agencies not only recommended the construction of the Grand Coulee Project during the Hoover administration but strongly urged the Federal Power Commission not to grant any licenses to private interests within that section of the Columbia River Basin which would be affected by its construction.

In view of the fact that these great public works projects appear to be in line with precedents previously established, it may be pertinent to inquire why such violent attacks have been launched against them. When we examine the record we find that there is only one really substantial difference between the policies which have been pursued by the present administration and those which have preceeded it. In previous administrations, it has been the practice, generally speaking, to dispose of the power generated at such projects by sale to a neighboring utility at the "bus bar" or generating station, leaving it free to distribute such energy and secure whatever profits might result therefrom. It is true that in the case of Boulder Dam, the City of Los

Angeles was given a share of the power and that the power at certain reclamation projects was disposed of to cooperative associations of water users. But until the coming of the present administration there was no effort on the part of the federal government either to make such power available for distribution by public agencies or to control the rates at which it should be sold to ultimate consumers. As long as the federal government was content to sell the electric energy generated by the Wilson Plant at Muscle Shoals for two mills a kilowatt hour to the Alabama Power Company without restriction upon the rates at which that utility should resell to consumers, there was no complaint from the utilities. But when the Tennessee Valley Authority began to sell power to municipal plants at six mills per kilowatt hour with the provision that it should be resold to consumers at rates not to exceed three cents a kilowatt hour, the same utilities charged that the government was engaged in the "socialization of the electric utilities of this country."

Supplementing its public works program, the administration has made provision on a large scale for the advancement of rural electrification. Created first by executive order, the Rural Electrification Administration has now been permanently established by act of Congress and provided with $400,000,000 to be expended over a series of years in the promotion of better and cheaper electric service for farmers in every section of the country.

While three years have passed since the first step was taken looking to the establishment of the Tennessee Valley Authority, the Holding Company Act and the Federal Power Act were passed less than a year ago and the first of these has been almost completely tied up by litigation. There has not, therefore, been adequate opportunity for those laws to become effective or for the public and the stock market to recover from the misleading and destructive propaganda launched against their enactment.

POWER PROGRAM OF THE TENNESSEE VALLEY AUTHORITY[4]

Many of the great electricity supply projects upon which the federal government has embarked are but parts of larger programs which include inland waterway, flood control, irrigation, and other developments. The chief of these are the Tennessee Valley Authority's project, Boulder Dam, the Grand Coulee development on the Columbia River in Washington, the Bonneville development on the same river in Oregon, the Fort Peck Dam on the Missouri River in Montana, and the Casper-Alcova project in Wyoming. The total cost of these six projects, including only the present plans for the Grand Coulee and TVA developments, has been variously estimated from about $675,000,000 to over $775,000,000, of which a large fraction would have to be allocated to the power phase of the undertakings. The most conservative estimate which the writer has seen of the cost of projects currently being considered by the TVA is $350,000,000, of which $169,000,000 is to be allocated to the power development. This article will be devoted to an analysis of the economic aspects of the power program of the TVA.

In attempting such an analysis certain difficulties are encountered. In the first place, electricity supply is not the only or even the most important aspect of the Tennessee Valley development. The project is really intended to be an example of comprehensive social and economic planning, including besides power production, the production of fertilizer, improvement of river navigation, flood control, prevention of soil erosion, reforestation, and the reorganization of agriculture and industry in this region. In the second place, the TVA

[4] By Robert W. Harbeson, Professor of Economics, Rutgers University. *Journal of Land and Public Utility Economics*. 12:19-32. February, 1936.

has been in existence only a little more than two years, so that any judgments concerning its policies and achievements must necessarily be tentative. The prospects of the Authority are especially uncertain in view of the legal entanglements in which it is at present involved. Finally, comprehensive and reliable data on the power developments of the TVA are difficult to obtain.

Before undertaking to evaluate the work of the TVA it will be necessary to review briefly those provisions of the Muscle Shoals Act of May 18, 1933, under which this body was created and which relate to the matter of electricity supply. The law states that the Tennessee Valley Authority is a corporation organized

> for the purpose of maintaining and operating the properties now owned by the United States in the vicinity of Muscle Shoals, Alabama, in the interest of national defense and for agricultural and industrial development and to improve navigation in the Tennessee River and to control the destructive flood waters in the Tennessee River and Mississippi River Basins.

The corporation is authorized to build facilities for generating and transmitting power and to enter into contracts for the sale of such power for terms not exceeding 20 years to states, counties, municipalities, corporations, partnerships, and individuals. Five per cent of the gross proceeds from the sale of power produced in Alabama and the same percentage of the gross proceeds from the sale of power produced in Tennessee shall be paid to those states in lieu of taxes. The Authority has recently announced that it was setting aside an additional 7½ per cent of its gross revenue in lieu of taxes, making a total of 12½ per cent for this purpose. It is declared to be the policy of the Authority that the power project shall be considered primarily as for the benefit of domestic consumers, rural and urban; and that the sale of industrial power shall be a secondary purpose, to be used principally to improve the load factor and revenue returns and thereby to permit the lowest

possible domestic rates. Finally, it is provided that net revenue from the sale of power or any products manufactured by the Authority, after deducting the cost of operation, maintenance, depreciation, amortization, and an amount deemed by the board as necessary to withhold as operating capital, or devoted by the board to new construction, shall be paid into the Treasury of the United States at the end of each calendar year. No provision is made for counting interest on the investment as one of the costs of the enterprise, but the Authority has voluntarily agreed to include this item in its cost calculations.

A bill embodying a number of significant amendments to the foregoing Muscle Shoals Act became law on August 31, 1935. The important changes affecting the power program of the TVA which were made in this legislation may be summarized as follows:

1. The Authority is given power to construct such dams and reservoirs, in addition to the Wilson, Wheeler, Norris, and Pickwick Landing dams, as may be necessary to provide a nine-foot channel in the Tennessee basin.

2. The Authority is directed in the operation of its dams and reservoirs to regulate the stream flow *primarily* for the purpose of promoting navigation and controlling floods. So far as is consistent with these purposes it may build and operate facilities for generation and transmission of electricity in order to avoid the waste of water power, and to market such electricity so as to assist in liquidating the cost, or to aid in the maintenance of, these projects. The purpose of this new provision may be to help insure the constitutionality of the whole program.

3. Legal sanction is given to the practice of the TVA in regulating power resale rate schedules.

4. The Authority may loan for a period of not over five years to states, counties, municipalities, and non-profit organizations for the purpose of acquiring,

improving and operating existing generating plants, distribution facilities, and interconnecting transmission lines, or for acquiring an interest in such facilities. When the Federal Power Commission approves of these arrangements the Authority may issue bonds to provide the necessary funds, the amount outstanding at any one time not to exceed $50,000,000.

5. The Authority is required to keep a comprehensive record of its activities according to a uniform system of accounts which the Federal Power Commission is directed to prepare, together with pertinent physical data and operating statistics. These data are to be reported to Congress from time to time with appropriate analyses and recommendations. The Authority is specifically required to allocate the value of its properties and to record the cost of power at each power station each year, the total cost of power at all of its power stations each year, the average cost of such power per kilowatt hour, the rates at which sold, to whom sold, and copies of all contracts for the sale of power. The policy of the act is declared to be that current should be sold on such terms as would make the power projects self-liquidating and self supporting as soon as practicable.

6. The section of the 1933 Act which details the deductions to be made before arriving at the net income which is to be paid into the federal treasury at the end of each calendar year is replaced by another which merely provides that all revenue shall be paid into the treasury except that which in the opinion of the Board of Directors of the Authority is necessary for conduct of the enterprise. In addition, the Authority is allowed a continuing fund of $1,000,000 for defraying emergency expenses and insuring continuous operation. Presumably the more detailed provisions of the earlier law are rendered unnecessary by the amendments described in the preceding paragraph.

7. The Comptroller General is directed to audit the TVA transactions at such times as he shall determine, not less frequently than once in each fiscal year, but is specifically restrained from making a report on his audit until the Authority "shall have had reasonable opportunity to examine the exceptions and criticisms of the Comptroller General or the General Accounting Office, to point out errors therein, or explain or answer the same, and to file a statement which shall be submitted by the Comptroller General with his report." The expenses of the audits are assessed to the General Accounting Office, except such part of the expenses as may be allocated to the cost of generating, transmitting, and distributing electricity.

The properties at Muscle Shoals taken over by the TVA as provided by law include, among other facilities, the Wilson Dam and power house, the latter having an installed capacity of 261,000 horsepower, and a potential capacity of 612,000 horsepower. There is also a steam generating plant of 76,000 horsepower capacity. The Authority is now building the Wheeler Dam and power house, which will have a capacity of 375,000 horsepower with 43,000 horsepower immediately installed; the Norris Dam and power house, which will have a capacity of 120,000 horsepower; the Pickwick Landing Dam which at present is designed to aid navigation, but which will ultimately have a power house of 270,000 horsepower capacity; and the Guntersville Dam which is designed to aid navigation. Three more dams are being considered for the near future, and ultimate plans call for many more. A transmission line 232 miles in length is now being constructed to connect Wilson, Wheeler, and Norris Dams, and the route selected passes a number of sites for proposed dams. The Authority is also constructing rural electric lines in Alabama and Mississippi. In addition, it has purchased, or has negotiated to purchase, certain transmission and

distribution facilities owned by private companies in Alabama, Mississippi, and Tennessee, altho these purchases have been held up by litigation.

The formulation of a power policy was the first step in carrying out the power program required by the Muscle Shoals Act. A policy was announced on August 25, 1933. In summarized form it is as follows:

1. The business of generating and distributing electric power is a public business.

2. Private and public inteersts in the business of power are of different kind and quality and should not be confused.

3. The interest of the public in the widest possible use of power is superior to any private interest. Where private interest and the public interest conflict the public interest must prevail.

4. Where a conflict occurs between public interest and private interest which can be reconciled without injury to the public interest, such reconciliation should be made.

5. The right of a community to own and operate its own electric plant is undeniable. Such a course of action may take the form of acquiring the existing plant or setting up a competing plant, as circumstances may dictate.

6. The fact that action by the Authority may have an adverse economic effect upon a privately owned utility should be a matter for the serious consideration of the Board in framing and executing its power program, but it is not the determining factor. The most important considerations are the furthering of the public interest in making power available at the lowest rate consistent with sound financial policy, and accomplishment of the social objectives which low-cost power makes possible. The Authority cannot decline to take action solely upon the ground that to do so would injure a privately owned utility.

7. To provide a workable and economic basis of operations, the Authority plans initially to serve certain definite regions and to develop its program in those areas before going outside.

8. The initial areas thus chosen are those in proximity to the Muscle Shoals and Norris Dam properties and the transmission line connecting the latter. As previously stated, the Authority has purchased or has negotiated to purchase, transmission and distribution properties of certain private power companies in those parts of Alabama, Mississippi, and Tennessee included in the above areas. Upon completion of these arrangements the Authority agrees, with certain exceptions, that until completion of the Norris Dam, and in any case for not over five years, it will not enter the rest of the territory served by the companies from whom the purchases are made or into the territory of the Georgia Power Company. The companies agree not to enter the area served by the Authority for the same period. Beyond this temporary arrangement the Authority reserves the right to extend its operations into wider areas as the public interest may require.

9. Every effort will be made by the Authority to avoid the construction of duplicate physical facilities, or wasteful competitive practices. Accordingly, where existing lines of privately owned utilities are required to accomplish the Authority's objectives, as outlined above, a genuine effort will be made to purchase such facilities from the private utilities on an equitable basis.

10. Accounting should show detail of costs, and permit a comparison of operations with privately owned plants, to supply a "yardstick" and an incentive to both private and public managers.

11. The accounts and records of the Authority as they pertain to power will always be open to inspection by the public.

Having before us this summary of the legal foundation of the Authority's program and the latter's statement of the power policy which it intends to pursue, we can proceed directly to a discussion of what seem to be, in the writer's judgment, the points of strength and weakness in the power program.

One of the merits of the program is the avowed policy of the Authority in including in its cost calculations all items which must be counted by private commercial undertakings. While, as will be pointed out, the adequacy of these calculations is open to some question, they represent a much closer approach to commercial standards than is to be found in the vast majority of governmental business enterprises. Altho, as already indicated, the section of the 1933 Act detailing the deductions to be made before arriving at the net income to be paid into the federal treasury each year has been dropped, it is probable that at least an equivalent check is afforded by the new requirement that the Authority keep its accounts according to a uniform system of accounts for public utilities to be prepared by the Federal Power Commission, and by the statement that the policy of the act is declared to be that the power projects are to be made self-liquidating and self-supporting as soon as practicable.

Likewise the Authority requires municipalities and cooperatives purchasing its current for resale to keep their electric system accounts separate from any other accounts and not to mingle electric system funds with any others, and also to keep their accounts according to a form prescribed by the Authority. The standard contract provides that, after meeting operating expenses, revenues shall be applied to the following *in the order named*: interest on electric system bonds and/or other indebtedness applicable to the electric system, amortization of such bonds and indebtedness, reasonable reserves for new construction and contingencies, payment of taxes

at rates equivalent to taxes assessed against similar property, and a return on the equity of not over 6 per cent. Any further revenues must be applied to the reduction of rates. An allowance for depreciation is not mentioned, but such an item appears in the published balance sheet and income statement of the City of Tupelo, Mississippi, with which the first contract was made.

A second merit of the project, in the writer's judgment, is that it embodies the principle that the ownership and control of water power resources should be in the hands of the government, to be administered as a public trust for the benefit of the people as a whole. It does not follow, of course, that the generation and transmission of electricity should also be a governmental function, and many economists who favor public ownership of water powers do not favor public electricity supply. But certainly our experience with unrestricted private ownership and exploitation of coal, oil, timber, and other essential resources should incline us to favor a different policy with respect to water powers.

A third merit of the Authority's program is that unquestionably, from a technical standpoint, unified development of an entire watershed under a single ownership and control is desirable. This is, of course, an objective which private capitalists seeek to attain wherever possible. A primary consideration in hydroelectric undertakings is, necessarily, to secure as steady a flow of water as possible. At the same time storage facilities are very expensive. If there were a number of separately owned up-river plants, each with storage water which would be held or released according to the needs of the individual plant, and a number of separately owned down-river plants having little or no storage, it would be exceedingly difficult to agree on a mutually satisfactory policy with regard to the release of water; far more would be invested in storage facilities than

would be required under a single ownership, and probably none of the generating plants could be developed to the most advantageous size.

In the present project Wilson and Wheeler Dams are called "run-of-the-river" plants. When the river is high, much power can be produced at Wilson and Wheeler. When the river is low, little power is available. On the other hand, Norris Dam is primarily a storage dam, with a reservoir which will cover 80 square miles, equivalent to a year's rainfall from several thousand square miles. The power house at this dam is to be connected with those at Wilson and Wheeler. During the wet season the Norris power plant will be shut down and the water stored. During the dry season the water will be released to develop power at Norris, Wheeler, and Wilson. The Authority thus hopes to provide a unified power development which will be able to secure a steady flow of water at the least possible expense for storage facilities, and will be able to secure all the economies of large-scale production.

There is the difficulty, however, of conflicting uses of water, even under unified control. The recent amendments to the Muscle Shoals Act direct the Authority to operate its dams and reservoirs *primarily* for the purpose of promoting navigation and controlling floods. There is a possibility that this requirement might conflict with the interests of the Authority in power production, unless the reservoirs at Norris and other storage dams prove to be very large in relation to the flood producing run-off.

Finally, the policy of the Authority to extend the use of electricity as much as possible is very desirable both socially and economically. The view is widely held among students of public utilities that a very large number of private companies, possibly a majority, have been conservative to the point of shortsightedness in the matter of making reductions in rates, especially

domestic rates, which would greatly increase the use of current. Doubtless, also, some state commissions have refused to sanction proposed reductions on the ground that the rates would not be compensatory. There is a fundamental contrast between the attitude of private utilities which generally prefer to cut rates after an increase in demand and a lowering of costs takes place, and that of the TVA which cuts rates in advance to stimulate demand and thereby to achieve the lower unit costs which would justify the reduced rates. It is largely a question of the length of time which is considered in connection with the problem of covering costs. It should be remembered, of course, that the TVA is not under the necessity of immediately supporting a capital structure in default of which control of the property passes to creditors. Hence it is in a better position to experiment with immediate, sharp rate reductions designed to increase the use of current, and can undertake a longer developmental period than private enterprises with capital structures to support. While, in view of these facts, and as will be indicated subsequently, questions may be raised concerning the expediency of the particular rate schedule set up by the Authority, there can be little question as to the soundness of the general principle upon which it is acting. The social benefits of a wider use of electricity in reducing toil and elevating standards of living are obvious and have been much emphasized by the Authority, but the economic advantage of more extensive use of electricity is also very important. In this way the fullest achievement of the economies of large-scale production is made possible. The achievements of the Authority in this direction are shown in Table I. Further studies covering the bulk of the communities in this table show increases in the number of residential customers between the month before TVA rates were applied and April, 1935 ranging from 3.33 per cent to 38.42 per cent

TABLE I. RELATIVE INCREASE IN VOLUME OF RESIDENTIAL CONSUMPTION IN 30 COMMUNITIES UNDER T.V.A. RATES*

Community	Duration of T.V.A. Service as of April 30, 1935	Date of Initial Delivery	Per cent Increase in Residential Consumption
Muscle Shoals City, Ala. ..	19 months	Oct. 14, 1933	50†
Tupelo, Miss.	15 "	Feb. 7, 1934	140
Alcorn County, Miss.	11 "	June 1, 1934	92
Athens, Ala.	11 "	June 1, 1934	157
Mississippi Power District:			
Baldwyn, Miss.	11 "	June 1, 1934	156
Blue Mountain, Miss. ...	11 "	" " "	119
Booneville, "	11 "	" " "	83
Burnsville, "	11 "	" " "	155
Fulton, "	11 "	" " "	234
Golden-Belmont, "	11 "	" " "	116
Guntown, "	11 "	" " "	255
Hickory Flat, "	11 "	" " "	69
Iuka, "	11 "	" " "	180
Myrtle, "	11 "	" " "	97
Nettleton, "	11 "	" " "	83
Potts Camp, "	11 "	" " "	10
Saltillo, "	11 "	" " "	130
Shannon, "	11 "	" " "	83
Sherman, "	11 "	" " "	87
Tishomingo, "	11 "	" " "	93
East Tupelo, "	11 "	" " "	350
Verona, "	11 "	" " "	111
Wheeler, "	11 "	" " "	92
Pontotoc County, "	11 "	" " "	122
Amory, Miss.	8 "	Sept. 2, 1934	46
Lauderdale County, Ala. ..	6 "	Oct. 20, 1934	210
Colbert County, Ala.	5 "	Dec. 4, 1934	133‡
New Albany, Miss.	6 "	Nov. 12, 1934	63
Pulaski, Tenn.	4 "	Jan. 4, 1935	53
Dayton, Tenn.	3 "	Feb. 1, 1935	18

*T.V.A., Department of Electricity, Division of Rates, Research and Economics, *Statistical Bulletin No.* 6, "Disposition of Consumers' Savings Under T.V.A.Rates, Table IV, p. 11.

† Percentage increase from date of earliest available statistics, October, 1934.

‡ Initial service to residential consumers in February, 1935.

and averaging 22.68 per cent. Total revenue from residential service in these communities over the same period showed increases ranging from 12.32 per cent to 103.47 per cent and averaging 63.79 per cent. It should be noted that TVA service was available for varying lengths of time in these communities, and that, in general, the longer the period of time it has been available the greater the increase in consumption shown.

In this connection mention should be made of the activities of the Electric Home and Farm Authority, formerly a subsidiary of TVA, in increasing sales of appliances thru its lending, advertising, and other promotional activities. Dr. A. E. Morgan, Chairman of the Board of Directors of the TVA, testified at the hearings on the TVA amendments that in the second half of 1933 only about 6,900 home appliances were sold in the states of Alabama, Georgia, and Tennessee, while in the second half of 1934, with the EHFA in operation, the sales were about 28,000 pieces; and that he estimated that ¾ of the increase in sales occurred in communities other than those using TVA power.

As an offset to the important merits of the Authority's program there are certain features of its policy the soundness and equity of which, in the writer's judgment, are questionable. Before undertaking any criticisms, however, it is necessary to clarify the meaning of the now famous "yardstick" principle, first enunciated by President Roosevelt in a campaign speech at Portland, Oregon, in September, 1932. The President said in part:

> It is perfectly clear to me and to every thinking citizen that no community which is sure that it is now being served well and at reasonable rates by a private utility company will seek to build or operate its own plant.
>
> But on the other hand, the very fact that a community can, by vote of the electorate, create a yardstick of its own, will, in most cases, guarantee good service and low rates to its population. I might call the right of the people to own and operate their own utility a "birch rod in the cupboard, to be taken out and used only when the child gets beyond the point where mere scolding does any good."

That is the principle that applies to communities. I would apply the same principles to the federal and state governments.

The yardstick idea as expressed in the foregoing, in the writer's judgment, cannot mean more than that the TVA and similar projects should provide the information necessary to enable localities to determine whether their costs and rates have been reduced as far as possible. It cannot mean, as is sometimes implied, that the TVA costs and rates should be the ones actually prevailing in communities generally, because of a large number of factors which compel the minimum obtainable costs and rates to vary with localities and regions.

Altho, as previously indicated, the policy of the Authority has been to include in its cost calculations all items which would have to be counted by a private enterprise, and altho the continuance of this policy presumably will be insured by the uniform accounting requirements imposed by the recent amendments to the TVA Act, a question arises as to the adequacy of the calculations in some cases. In the first place, certain questions may be raised concerning the Authority's capital account. This account is especially important because the capital investment per kilowatt of capacity is much greater for hydro-electric plants than for steam power plants. The Authority is directed by law to find the "present value" (presumably in the sense of cost of reproduction) of the Muscle Shoals properties. In carrying out this mandate it is using unit cost data derived from the Wheeler Dam project, a project similar to the one at Muscle Shoals and one which is being constructed under conditions almost identical with those which would prevail if the Wilson Dam were now being built. The power properties at Wilson Dam, including the stand-by steam plant, cost the government about $60,000,000. The dam and power plant alone cost about $47,000,000. The figure for their present value has not yet been determined, but for Wilson Dam and power plant the estimate is $33,000,-

000, of which $22,000,000 would be allocated to the power project.

Whether reproduction cost or original cost should be used for valuation purposes has been extensively and bitterly debated. But it would seem that since the Authority proposes to use a reproduction cost valuation for this part of its property, based on a period of low prices, to be consistent it will have to increase this valuation in the future whenever a marked rise in the price level occurs. The propriety of the interest element in the yardstick thus depends upon whether the Authority will adhere consistently to reproduction cost valuation in periods of high prices in the future. Otherwise the use of reproduction cost for this part of its property, while using original cost for the rest, will lay it open to the accusation of artificially reducing its investment account. The Authority's explanation of this procedure is that the original cost of the property in question was abnormally increased by the delay and interruptions attending its construction. This is, to be sure, a mitigating circumstance, but it has not been proved that this explanation removes the significance of the discrepancy between construction costs at pre-depression price levels and reproduction cost at current prices. Likewise, the cost of constructing distributing systems in communities purchasing TVA current may be reduced 45 per cent by reason of free grants for such construction work from the Public Works Administration, thereby also artificially reducing the investment account on which a return is to be earned. This arrangement, however, is at present held up pending a decision by the Supreme Court.

Another difficulty is that the bulk of the TVA's expenditures for dams will be applicable jointly to power production, flood control, and river navigation, and the portion of such joint costs assignable to power production must be arbitrary. Hence an indeterminate element is introduced into the yardstick. Professor H. M. Gray

has recently urged that in such multiple-purpose projects the joint costs are incurred for the general good rather than for individual benefit and hence should be a general charge upon the public revenue in the same way as other social services, while separable and special costs incurred for the benefit of particular individuals, groups, or communities should be borne by the direct beneficiaries. This means that electricity produced in connection with multiple-purpose projects should be treated as a by-product and charged only with the separable costs which can be allocated to it, such as power house, turbines, generators, transmission lines, and auxiliary equipment. Professor Gray points out that single-purpose, privately owned plants, which must recover all costs from the sale of electricity alone cannot compete with multiple-purpose, publicly owned enterprises when the latter are operated on the foregoing principles. He holds, however, that this is not a case of "subsidy" or "unfair competition," but the displacement of one institution by another economically and socially superior. But he recognizes that such multiple-purpose public enterprises cannot properly serve as yardsticks for single-purpose, privately owned firms which are fundamentally different in nature and functions.

A question has been raised concerning the propriety of the Authority's policy in charging interest on its investment at a rate (3½ per cent) only slightly above that prevailing on government borrowing. If the Authority's power rates are to constitute a yardstick for those charged by private utilities, in the sense of demonstrating what the latter rates might legitimately be, a percentage for return on the investment should be allowed equal to that which private utilities would have to pay, under honest, efficient, and economic management, in order to secure the necessary capital. It may be pointed out, further, that the lower cost of money enjoyed by the TVA does not represent a saving to society as a whole. Investors are willing to supply funds to a government

enterprise such as this at a lower rate of interest than to a private company because the former is backed by the taxing power of the government, which results in the risks of the enterprise being shifted in large part to the taxpayers. The cost of carrying the risks of the enterprise is thus merely redistributed, being borne in large part by the taxpayers at large rather than by investors in the enterprise in question. The proportion of the risk shifted to the taxpayers is measured by the interest rate differential in favor of the government enterprise.

A word needs to be said concerning depreciation. The Authority's allowances for this item have been criticized by Comptroller-General McCarl and by others. The writer is unable to pass upon the adequacy of the Authority's depreciation allowances, but in view of the criticisms which have been advanced it would seem wise for the Authority to have this item checked by competent outside experts.

Taxes constitute an important item which must be included in any rate yardstick. If the results of a governmental business enterprise are to be compared with those of a private company, the former must include as one of its costs a sum equal to the taxes that it would pay if the undertaking were privately owned. As previously stated, the Authority is setting aside 12½ per cent of its gross income in lieu of taxes. The percentages set aside for this purpose by The Comonwealth and Southern Corporation and its operating subsidiaries in TVA territory in 1934, based upon data in Moody's *Manual of Public Utilities,* are as follows:

Company	*Percentage Taxes to Gross Income,* 1934
Commonwealth and Southern Corp.*	12.2
Alabama Power Co.	14.4
Georgia Power Co.	9.5
Tennessee Electric Power Co.	15.8

* This Company controls properties elsewhere than in this part of the South, but the great bulk of its interests are in this region.

This result has been held to demonstrate that the Authority is on a par with private power companies in the same region in the matter of taxes. The fact is, however, that the comparison involves a statistical fallacy, since the items compared are not homogeneous. The TVA percentage applies to revenue from wholesale sales, while the figures for the private power companies are based upon revenues from *both wholesale and retail* sales. As already explained, the municipalities purchasing TVA current are required to count as an item of cost a sum equal to the taxes which their distribution systems would pay if privately owned. We do not know how the *total* tax burden of the Authority and the municipal distribution systems purchasing its current for resale compares with that of private companies on their entire generation; transmission, and distribution business; nor do we know how the tax burden of the Authority on its wholesale business compares with that of private companies on their wholesale business alone. These are the really valid and significant comparisons.

It is too early to pass a final judgment concerning the propriety of these rates from the revenue standpoint, since they were designed to be compensatory only when, as, and if a much larger output of current than that existing at present has been built up. The Authority very properly points out that every utility in starting a new enterprise or in experimenting with reduced rates must expect a developmental period to elapse before it receives compensatory returns, and that in this case the development of business has been further retarded by litigation. A question arises, however, as to whether, apart from the factor of litigation, the developmental period for the TVA power projects may not be longer than that for which a private enterprise could afford to plan. Altho, as Table I shows, the low resale rates prescribed by the Authority have brought a gratifying increase in consumption and revenue and demonstrate the

soundness of the general principle upon which it is acting, the facts remain that the aggregate business thus far developed has not been large, that a large part of the population in TVA territory is economically and socially backward, and that the level of incomes prevailing in many parts of this region is exceedingly low. Were these not the facts the Authority would not have as one of its main objectives the economic reorganization and rehabilitation of this region. While the Authority's policy may be readily defended from the social welfare point of view and while its wholesale power rates may *eventually* be fully compensatory, it may be questioned whether these rates constitute a proper yardstick for private enterprises which even under the most enlightened management could not afford to run the risk of experiencing such a long developmental period.

The TVA has certain miscellaneous advantages, such as the right to use the franking privilege and the right to get special governmental rates on the railroads, altho the savings from these sources are trifling when reduced to a per-kilowatt-hour basis. As an offset to these advantages, the Authority claims to pay higher wages than the private utilities in the same region.

An aspect of the Authority's power program which has received considerable attention is its bearing on the question of the creation of excess capacity for the production of electricity, and the consequent effects on investors in private utilities. Without doubt the whole matter of excess capacity has been grossly exaggerated, and the opportunity seized to create groundless concern among private utility investors. In the first place, the Authority has made clear that it proposes to install generating capacity and to build transmission lines only as needed, and that it will make every reasonable effort to avoid duplication of facilities and to protect prudent investment in private utilities. In the second place, the findings of the National Power Survey made by the

Federal Power Commission must be considered. These findings are that with a return to the 1929 level of business activity the power consumption for the country as a whole would be an estimated 20 per cent above 1929 consumption, which has been the maximum up to the present; that for Alabama, Georgia, Tennessee, and eastern Mississippi the consumption would be 23 per cent above the previous maximum; that under these conditions there would be a power shortage in various sections and especially in the Southeast, if present capacity were not increased; and that at the present time in the latter district there is a minimum of spare capacity, the amount falling short by about 100,000 kilowatts of being a normal reserve for expansion.

On the other hand, however, the National Power Survey has been criticized for overstating the degree to which obsolescence reduces the economical use of existing plants and for including in its estimates of necessary capacity a substantial allowance for military preparedness. With regard to the Authority's policy, it would seem that the series of dams which it is building may constitute an important influence retarding the potential expansion of private power companies in this region (at least in the generation and transmission of electricity), by providing great potential generating capacity which the Authority can utilize as needed. This influence will in greater or less degree offset the benefit of the TVA's example in reducing rates so as to encourage the use of electricity, a factor favoring the expansion of private power enterprises in this territory. In general, it would seem that, while investors need not be seriously concerned for the security of prudent investments now existing, they cannot look forward to the advantage of participating in a rapidly expanding utility industry to the same degree as would be possible if the TVA were not in the power business and the managements of private companies pursued enlightened rate policies.

Last of all the writer objects to the principle that one of the chief purposes of the TVA and similar undertakings should be to serve as a regulator of private utilities, as an alternative to commission regulation or complete public ownership. It is clear that commission regulation at present has serious deficiencies because of interference by the courts, political control of some commissions by private utilities, and for other reasons. This being the case the writer feels that the necessary steps should at once be taken to make commission regulation effective. The recent Public Utilities Act of 1935 is an important move in this direction. Failing this, the only suitable alternative, in the writer's judgment, is public ownership once for all. The writer, however, has never been convinced that public ownership would solve the problems which, it is said, can never be solved under regulation. The problems would remain in different guise. Would not the same circumstances which now make regulation unsatisfactory—inefficient and corrupt officials, political pressure, an indifferent electorate—cause the situation to be unsatisfactory under public ownership also? The fundamental question, whether under public ownership or public regulation, concerns the ability of the people to govern themselves intelligently in a democracy.

But in any case, the development of publicly owned utility enterprises paralleling private enterprises for the sole purpose of regulating the latter is, in the writer's judgment, of very dubious economic merit, because it may result in unwarranted impairment of private investments, needless duplication of facilities, excess capacity, and inability to secure the full economies of large-scale production. The TVA and similar projects, while not necessarily guilty in these respects, ought to justify themselves otherwise than as alternatives to commission regulation or complete public ownership of public utilities.

CHARACTER AND EXTENT OF COMMISSIONS' CONTROL OVER RATES [5]

Thirty-eight of the forty-one state regulatory bodies having jurisdiction over electric utilities report that they have the authority to regulate rates charged by all privately owned utilities. One of these, Idaho, added that it has jurisdiction over all such utilities operating for profit. Three commissions (Connecticut, Missouri, and Pennsylvania) indicated that their control is limited to the regulation of maximum rates only, the companies being generally free to promulgate rates below the maximum level set up by the commissions. The Missouri commission gave the additional information that its policy is neither to approve nor disapprove the schedules. Any rate contract or rule, when filed with the commission for thirty days, becomes effective if not suspended or protested by the customers to be served.

The Ohio commission reported that it does have the power to regulate rates for all privately owned utilities but qualified this statement by adding that it has no jurisdiction where a utility has a contract with a municipality, and that under the state law the power to regulate the rates for electric service furnished in municipalities rests primarily with the municipal council. If the council of a municipality passes an ordinance fixing rates for electric service and the rates so fixed are not satisfactory to the electric light company, the company has the right under the law to file an appeal with the commission within sixty days after the passage of the ordinance. However if the company accepts the ordinance, the passage of the ordinance by the council and acceptance thereof by the company constitutes a contract over which the commission has no control.

[5] United States. Federal Power Commission. Electric Rate Survey. "State Commission Jurisdiction and Regulation of Electric Rates and Service." Rate Series No. 6. p. 3-4. October, 1935.

The Nebraska commission reported that it has jurisdiction over rates of all privately owned utilities, but that this authority is limited to service in unincorporated territory. Wyoming, having complete jurisdiction over rates, advised that it is the policy of the commission when an electric utility files a new schedule of rates to merely hold the same open fifteen days for protest by the town council, or 5 per cent of the users in such town, and then in the event that no protests are made, the rate automatically goes into effect.

Colorado, Kansas, and Michigan reported that they do not have jurisdiction over rates for all privately owned utilities and made the following qualifying statements: Colorado, all except "home-rule cities chartered under twentieth amendment, state constitution"; Kansas, no jurisdiction "over private electric utilities operating wholly within one city. . . . however, if the ordinance or resolution by the city is unreasonable, the utility may appeal to the commission"; Michigan, no jurisdiction "where rates are fixed or regulated by any franchise heretofore or hereafter granted by any city, village, or township."

Twelve states (Indiana, Kentucky, Maine, Maryland, Montana, Nevada, New York, Rhode Island, Vermont, West Virginia, Wisconsin, and Wyoming) reported that they have jurisdiction over rates charged by municipally owned electric utilities both within and without the corporate limits of the municipality, and nine states (Arkansas, Colorado, Georgia, Louisiana, Nebraska, New Hampshire, New Jersey, Oklahoma, and Utah) advised that they have such jurisdiction only outside of the city limits. Three commissions (Louisiana, Oklahoma, and Utah) of the nine which claimed the authority to regulate municipal rates outside of the corporate limits, and Wyoming, which advised it has jurisdiction both within and without the city limits, have not had this authority tested in the courts. Arizona advised that its power to

regulate the rates of municipally owned utilities outside of the corporate limits of the municipality has not been adequately tested in the courts, and that about fifteen years ago this matter was brought up over an extension of water service outside of the city limits. The case was tried in the superior court and won by the city. The commission appealed to the supreme court but the case was dropped by both sides. Since that time the commission and the various cities have operated under what might be called a "gentlemen's agreement."

Recent legislation in Indiana, Oregon, and South Carolina exempts municipally owned utilities from commission regulation. Indiana advised that municipal plants acquired after March 2, 1933, are not under the commission jurisdiction.

Thirty-seven commissions advised that they have the right to regulate rates paid privately owned utilities by municipalities for street lighting, water pumping and other large power, lighting municipal buildings, and other small light and power service not purchased under general approved rate schedules.

Thirty-nine states and the District of Columbia advised that they have the authority to regulate rates paid by the federal government to privately owned utilities altho one of these (New York) stated:

> If there is no contract and the matter is brought to the commission for determination, we then have the same jurisdiction that we have over rates to general consumers.

RURAL ELECTRIC SERVICE [6]

Passage by Congress of the Rural Electrification Act, approved by the President on May 20, 1936, not only makes permanent the Rural Electrification Administration established by Executive order May 11, 1935, but

[6] From Forword, by Basil Manly, Commissioner in Charge. United States. Federal Power Commission. Electric Rate Survey. "Rural Electric Service." Rate Series No. 8. p.v. February 1, 1935.

provides for a continuous program with total appropriations of $410,000,000 for this purpose over a ten-year period. Tremendous impetus is thus given to the building of rural lines, which must result in a reduction of costs and the removal of many difficulties that have impeded the extension of rural service.

Some observers estimate that nearly 29,000,000 of the 32,700,000 people living on farms in the United States do not have central station service. This represents approximately 23 per cent of the nation's entire population. Add the number of nonfarm rural dwellers in communities of 250 or less population and the proportion is even greater.

Rural customers were not, for many years, separately reported, and it is only within the past thirteen years that dependable estimates of the extent of rural electrification have been available. During this period from 1923 to 1936, the number of farms receiving service from central stations has increased from 178,000 to 794,000. In addition, there were on January 1, 1936, approximately a quarter of a million farms having their own individual electric plants.

Within the United States the proportion of farms served by central stations varies widely, being highest in the New England and Pacific states and lowest in the East South Central and West South Central states. In California, Connecticut, Massachusetts, New Hampshire, New Jersey, Rhode Island, Utah, and Washington, for example, more than 50 per cent of the farms receive service from central stations. In Arkansas, Georgia, Louisiana, Mississippi, North Dakota, Oklahoma, and Texas less than 3 per cent of the farms have such service.

Rural electrification has been, until the past two or three years, left almost entirely to the initiative of private utilities. Their efforts in most sections being con-

centrated largely on the development of urban communities, the extension of lines into farm and rural areas has proceeded slowly. In ten years, the percentage of farms receiving central station service has grown from 3.9 per cent to only 12.6 per cent.

Within the past three years, however, rural electrification has come to be recognized as a matter of national concern, and federal, state, and local bodies, as well as utilities, publicly and privately owned, are cooperating in the effort to bring to our rural population this modern necessity. In many respects, electric energy is of greater importance to farm families than it is to urban dwellers. Whereas residential customers in cities towns use energy only for domestic purposes, electric energy is used on farms for such chores as water pumping, wood cutting, feed grinding, milking, churning, and incubator operation. Its use for washing, ironing, cleaning, cooking, water heating, and refrigeration immeasurably lightens the burdens of the farm woman. Electric lighting also makes the farm home more attractive as a center of family and social life.

The benefits of farm electrification have scarcely begun to be realized. Fully one-half of all the farms now enjoying central station service consume less than 30 kilowatt hours per month. This amount is barely sufficient for lighting and the occasional use of minor appliances. Its use for other purposes promises a large increase in consumption which should lead to lower rates.

In furtherance of a more adequately electrified rural America, various federal agencies have recently been at work.

The Tennessee Valley Authority has built several hundred miles of lines in rural territory, in which farmers have formed cooperatives to build their own lines

and distribute the purchased energy to their subscribers. The Electric Home and Farm Authority makes loans to individuals wishing either to wire their homes or purchase appliances and equipment. It has also succeeded in standardizing certain appliances, enabling them to be made and sold at prices lower than heretofore.

The Federal Housing Administration cooperates by making loans to farmers and rural dwellers who wish to install pressure water systems, or who wish to modernize bathrooms and kitchens.

The Rural Electrification Administration was created to expedite the construction of rural lines on a broad scale, to bring electric energy to as many farms as possible and to have it used in quantities sufficient to improve rural life. Preference is given applications from public, cooperative, and nonprofit groups. This agency has been in operation for little more than a year, but in that time has loaned or earmarked $12,000,000 for the construction of 11,000 miles of rural lines to serve over 40,000 customers who never before have had central station service. The projects are located in 27 states from the Atlantic to the Pacific.

State rural electrification bodies have been formed in a number of states to cooperate with the Rural Electrification Administration and to provide means thru which it can most effectively operate. Many state public service commissions are actively fostering rural electrification. The formation of Electric Cooperative Associations in Alabama, Indiana, North Carolina, Tennessee, Virginia, and other states has been encouraged by legislation.

Under these various influences the movement for the electrification of farms and rural dwellings is gaining in many directions. Rural electric rates are being reviewed and schedules of charges are being scrutinized as never before.

ELECTRIC LIGHT AND POWER RATES [7]

Here are the rates in effect in that section of the country prior to the passage of the Muscle Shoals bill. These were the average rates. I take them from the book called "N. E. L. A.", the National Electric Light Association.

Rates In Effect Prior To TVA Bill

	Former power company rates	T.V.A. rates
10 cents per kilowatt-hour first 30 kilowatt-hours....	$3.00	$0.90
8 cents per kilowatt-hour next 170 kilowatt-hours....	13.60	3.60
7 cents per kilowatt-hour next 300 kilowatt-hours....	21.00	2.40
6 cents per kilowatt-hour next 350 kilowatt-hours....	21.00	1.40
5 cents per kilowatt-hour next 150 kilowatt-hours....	7.50	.60
1,000 kilowatt-hours....	66.10	8.90

For $8.90, under the TVA rates, a householder now gets 1,000 kilowatt hours a month, which would have cost him $66.10 under the power company rates in effect at the time the Muscle Shoals bill was passed.

In Jackson, Mississippi, under the Mississippi Power and Light Company rates in effect at the time of the passage of the Muscle Shoals bill, this 1,000 kilowatt hours per month would have cost him $51.42.

In Tacoma, Washington, where they have a publicly owned plant, it would cost $10.60; and in Ottawa, Canada, where they also have public ownership, this 1,000 kilowatt hours per month would cost $6.17.

These rates are here brought down to date, with all of the reductions that we have forced. Let us take first 150 kilowatt hours a month, which in Tupelo, Mississippi cost $3.50 and in Tacoma, Washington, cost $2.90; in Ottawa, Canada, $2.05; in Boston, Massachusetts, $6.70; in Brooklyn, New York, $8.05; in Jackson, Mississippi, $5.18; in Columbus, Ohio, $7.75; in Philadelphia, Pa., $5.95; and in Pittsburgh, $5.60.

[7] From speech of John E. Rankin *Congressional Record*. 79:(current) 1214-15. February 18, 1935.

Domestic rates—Net monthly bills for typical residential customer

City and State	Population	Company	(1) Lighting and small appliances			(2) No. 1 plus refrigeration		(3) No. 2 plus cooking	(4) No. 3 plus water heating	(5) No. 4 plus extra use		Average monthly domestic consumption
			15 kilowatt-hours	25 kilowatt-hours	40 kilowatt-hours	100 kilowatt-hours	150 kilowatt-hours	250 kilowatt-hours	500 kilowatt-hours	750 kilowatt-hours	1,000 kilowatt-hours	
Atlanta, Ga	270,000	Georgia Power Co	$1.00	$1.45	$2.12	$3.95	$4.95	$6.57	$8.57	$11.36	$13.92	73
Boston, Mass	781,000	Edison Electric Illuminating Co	1.05	1.65	2.40	5.20	6.70	9.70	12.70	18.70	23.70	52
Brooklyn, N. Y	2,560,000	Brooklyn Edison Co	1.30	1.80	2.55	5.55	8.05	13.05	25.55	38.05	50.55	38
Buffalo, N. Y	573,000	Buffalo General Electric Co	.76	1.13	1.70	3.06	3.81	5.31	9.06	12.81	16.56	66
Birmingham, Ala	259,000	Birmingham Electric Co	.98	1.55	2.30	4.05	5.30	7.80	12.55	16.30	20.05	40
Baltimore, Md	804,000	Consolidated Gas, Electric Light & Power Co.	.75	1.25	2.00	4.18	5.86	8.98	12.22	15.22	18.22	60
Chicago, Ill	3,376,000	Commonwealth Edison Co	1.03	1.51	2.04	3.75	5.17	8.02	15.15	22.28	29.40	61
Cincinnati, Ohio	451,000	Union Gas & Electric Co	.75	1.25	1.70	3.00	4.00	6.00	10.63	15.06	19.13	55
Detroit, Mich	1,568,000	Detroit Edison Co	1.03	1.39	1.93	3.53	4.65	6.90	9.96	13.90	16.72	58
Denver, Colo	287,000	Public Service Co. of Colorado	.90	1.50	2.40	4.80	6.30	9.30	16.80	24.30	31.80	40
Dallas, Tex	260,000	Dallas Power & Light Co	.83	1.38	2.20	4.60	6.45	8.40	13.40	18.40	23.40	54
Indianapolis, Ind	364,000	Indianapolis Power & Light Co	.86	1.44	2.30	4.80	6.72	8.53	11.53	16.65	21.03	44
Jackson, Miss	48,242	Mississippi Power & Light Co	1.30	1.90	2.80	5.40	6.40	8.40	12.40	16.15	19.90	47
Milwaukee, Wis	578,000	Milwaukee Electric Railway & Light Co	.93	1.55	2.04	3.75	5.18	7.08	8.60	12.78	16.34	47
New Orleans, La	458,000	New Orleans Public Service Co	1.38	2.13	3.25	6.00	7.25	10.75	14.50	18.25	22.00	40
Portland, Oreg	301,000	Portland General Electric Co	1.00	1.38	1.95	3.39	4.29	6.09	8.09	15.14	18.27	87
St. Louis, Mo	821,000	Laclede Power & Light Co	.69	1.07	1.43	2.85	4.04	5.70	9.26	12.82	16.39	56
San Francisco, Calif	634,000	Pacific Gas & Electric Co	1.00	1.53	2.10	4.20	5.95	7.85	9.95	12.45	14.95	53
Salt Lake City, Utah	140,000	Utah Power & Light Co	1.18	1.88	2.93	4.82	7.07	7.70	10.45	15.58	19.95	73
Philadelphia, Pa	1,950,000	Philadelphia Electric Co	1.03	1.58	2.40	4.45	5.95	8.70	11.70	16.83	20.70	48
Washington, D. C	486,000	Potomac Electric Power Co	.75	.98	1.56	3.60	3.95	5.67	10.10	13.85	17.60	68
Mean average			.98	1.49	2.20	4.23	5.62	7.93	12.06	16.99	21.46	55
Median average			1.00	1.50	2.12	4.18	5.86	7.85	11.53	15.58	19.90	54

Domestic rates—Net monthly bills for typical residential customer—Continued

City and State	Population	Company	(1) Lighting and small appliances			(2) No. 1 plus refrigeration		(3) No. 2 plus cooking	(4) No. 3 plus water heating	(5) No. 4 plus extra use		Average monthly domestic consumption
			15 kilowatt hours	25 kilowatt hours	40 kilowatt hours	100 kilowatt hours	150 kilowatt hours	250 kilowatt hours	500 kilowatt hours	750 kilowatt hours	1,000 kilowatt hours	
Toronto	626,674	Ontario Hydro Commission	$0.75	$0.75	$0.90	$1.44	$1.89	$2.79	$5.04	$7.29	$9.54	138
Port Arthur	19,749	do	.68	.68	.84	1.32	1.73	2.80	4.83	6.85	8.88	186
St. Catharines	26,192	do	.75	.75	.93	1.47	1.92	3.38	5.63	7.88	10.13	142
Ottawa	130,672	do	.75	.75	1.02	1.74	2.05	2.88	3.92	5.05	6.17	311
Brantford	30,724	do	.75	.75	1.02	1.74	2.19	3.38	5.63	7.88	10.13	142
Guelph	20,754	do	.75	.75	1.02	1.74	2.19	3.38	5.63	7.88	10.13	99
Hamilton	154,701	do	.75	.75	1.02	1.74	2.19	3.38	5.63	7.88	10.13	140
Kingston	23,260	do	.75	.75	1.02	1.65	2.10	3.29	5.54	7.79	10.04	92
London	73,173	do	.75	.75	1.02	1.74	2.19	3.38	5.63	7.88	10.13	196
Niagara Falls	18,507	do	.75	.75	.92	1.51	1.97	3.04	5.07	7.09	9.12	205
St. Thomas	16,275	do	.75	.75	1.02	1.74	2.19	3.38	5.63	7.88	10.13	155
Woodstock	10,956	do	.75	.75	1.02	1.74	2.19	3.38	5.63	7.88	10.13	137
Fort Williams	25,188	do	.75	.86	1.20	1.87	2.32	3.52	5.77	8.02	10.27	416
Owen Sound	12,803	do	.75	.86	1.20	2.01	2.46	3.65	5.90	8.15	10.40	83
Welland	10,668	do	.75	.79	1.09	1.83	2.38	3.66	6.14	8.61	11.09	104
Sarnia	17,801	do	.75	.79	1.26	2.29	2.78	3.77	6.25	8.72	11.20	97
Chatham	16,223	do	.75	.86	1.20	1.97	2.54	3.82	6.30	8.77	11.25	88
Windsor	65,565	do	.75	.81	1.30	2.38	2.92	4.00	6.70	9.40	12.10	165
Kitchener	31,443	do	.75	.75	1.02	1.81	2.35	3.73	7.14	9.13	11.83	141
East Windsor	14,333	do	.75	.81	1.30	2.38	2.92	4.00	6.70	9.40	12.10	108
Peterborough	22,809	do	.75	.75	1.20	1.99	2.55	3.97	6.79	9.59	12.41	107
Mean average			.75	.77	1.07	1.82	2.29	3.45	5.79	8.05	10.35	155
Median average			.75	.75	1.02	1.74	2.19	3.38	5.63	7.88	10.13	141
Tacoma, Wash	106,837	City of Tacoma, department of public utilities, light division	.68	1.13	1.80	2.40	2.90	3.90	6.40	8.90	10.60	117
Tupelo, Miss		Tennessee Valley Authority rates	.75	.75	1.20	2.50	3.50	5.00	6.90	7.90	8.90	103
Little Rock, Ark	81,679	Arkansas Power & Light Co	1.50	2.10	2.90	5.10	6.60	9.60	14.60	19.60	24.60	49

Now, let us move on up to 500-kilowatt hours a month. In Tupelo, Mississippi, 500 kilowatt hours would cost $6.90; in Tacoma, Washington, $6.40; in Little Rock, Arkansas, $14.60; in Ottawa, Canada, $3.92; in Brooklyn, New York, $25.55; in Philadelphia, Pennsylvania, $10.45; in Dallas, Texas, $13.40; and in Columbus, Ohio, $13.95. You know the power companies base their rates on your ability to pay, so evidently the people in some of these cities are very much more prosperous than are the people in others.

I will insert tables showing domestic light and power rates in 21 typical leading cities in various parts of the country, and also the Tennessee Valley Authority rates, the Canadian rates, and the Tacoma rates, as well as the rates for Little Rock, Arkansas, showing the average monthly consumption, as well as the average cost. I hope every one of you will study these tables, for they tell a terrible story, which cannot be successfully contradicted.

MORE POWER TO US [8]

Of the 30,000,000 homes of the United States, only two-thirds are wired for current. Their owners or tenants constitute approximately four-fifths of all the buyers of electricity in this country, yet they get only one-seventh of that product. And surveys indicate that, even in these wired homes, there are 100,000,000 empty electrical sockets.

Many electrical appliances for the household have been sold but, after all, their number is small compared with what it might be, if the utilities ever do the one important thing necessary to overcome what they call "customer hesitation." Take, for example, those much-heralded devices, the mechanical refrigerators, nearly all electrical. They are supposed to have turned the

[8] From article by John Harrington. *Today*, 2:3-4, 20. September 15, 1934.

old-time ice boxes out into the cold, yet only one American family in six possesses one. The electric cooking-range is much talked about these days, a million housewives do have them, indeed, but that means that only one home in thirty owes its dinners to the kilowatt. Out of every 150 residences, only one has an electric water-heater and scarcely one in ten has a "space heater"—a small reflector or radiating device for taking away part of the chill in the air. Apparently, according to researches made by the Edison Electrical Institute, only a little more than one-third of these emergency warmers are in active use.

Motor-driven oil burners are widely exploited, but one must visit forty-four houses to find one. There is no question that air conditioning some day will give, to most dwellings, a climate of their own—warmth in winter and coolness in summer, with an atmosphere filtered, purified, humidified or dried, as well as regulated in temperature. Altho this new art is making progress in commercial circles, especially among theaters, restaurants and railway trains, it will be a long time, under prevailing conditions, before it will approach universal usage in our homes. Considerably less than one per cent of the wired dwellings of this country have air conditioning, and much of such equipment is only makeshift or partial in nature.

Minor electrical devices are fairly numerous. Practically every house with a connected load has a current-heated flat-iron. Ironing machines are rare. One family in every forty-two has a washing machine for clothes, about the same proportion uses electrical dish-washers. One-third of our domiciles boast electrical coffee percolators, and one-fourth of them have toasters. There are nearly 10,000,000 vacuum cleaners in use. Dealers sell $8,000,000 worth of electric fans a year for office and home. One-fifth of our households have electric clocks of some sort, nine-tenths of which are actually

consulted for the time. High-pressure salesmanship has given to the American home all manner of ingenious electrical gadgets, waffle irons, warming pads, hair curlers, mixers, fruit-juice extracters and the like.

All these uses are more or less sporadic. They give no true picture of general conditions. A moderately electrified home of the present age, say a six-room house or flat, inhabited by a cautious and statistical family of four and three-quarter persons, has an average of twenty-eight electric-light bulbs burning, forty or sixty watts. The outlay for household lighting current has declined for several years, largely owing to the improved bulbs, which give more light with less current. The amount of current used by households has been increasing slightly, however, even during the depression, owing to the increasing popularity of the minor appliances, of which the home of Mr. Average Citizen is credited with eight. As both lighting and working devices are employed only a part of the time, the consumption of the average home is now only at the total of 614 kilowatt hours a year. A house, for instance, has fixtures with a capacity of about three kilowatts, but it uses most of this wattage only a few minutes a day. Compared with what might be employed under different conditions, this amount is very low.

To get the picture of what so readily may come to pass, suppose we take a look at the House of Tomorrow. It was built in Mansfield, Ohio, by Westinghouse, which manufactures electrical equipment, to demonstrate what the American home should become within five years. It is not a laboratory, but an experimental station, in which people live in order to measure its possibilities by everyday practice. In outward appearance, it is an eight-room residence of brick veneer, with two full stories, a basement and a penthouse. It was designed to cost $12,000, with equipment.

The present tenant and his family live as in a modern Aladdin's palace. When he comes home, at evening, he touches a radio transmitter in his car. The driveway is instantly lighted, the door of the garage rolls back automatically, and he drives inside. After he leaves, the door closes and the lights are switched off, without aid of human hands. Similar arrangements for opening and closing doors, either by electric treadle or the photo-electric cell, are in evidence thruout this home of the future. The passing of a shadow across an electric field is the silent "Open Sesame" in this wonder home.

This abode, as is the similar one at the Century of Progress Exposition in Chicago, is air-conditioned thruout, by means of its "weather room" in the basement. It has no radiators or other heating appliances in evidence as the air, warmed or cooled as desired, is conveyed thru built-in ducts and discharged by fans thru register grills in the walls. If only enough heat is needed to kill the chill, an electric current warms metal strips under the plaster. There are plenty of windows, excellent for the view and the natural light they afford, but not really required for ventilation. There is no need to open them at all; thus, colds and drafts have no place in this dwelling with its man-made climate.

In the nearly servantless house of the next decade, or perhaps sooner, a maid-of-all-work need never work beyond NRA hours. The kitchen teems with hand- and foot-saving devices. Electric appliances for mixing, stirring, extracting, chopping and grinding are everywhere. The range is fed by electric current; the dishwasher whirls its contents to polished cleanliness in four or five minutes. Under the kitchen, and connected by a chute, is the basement laundry, with its electric washing machine, its centrifugal drier, its ironing machine and its electric flatiron for closer work. The home is

illuminated, thruout, with a system of cove and hidden lighting which gives a brilliant display or a mellow radiance at the slightest adjustment.

Suppose we compare this house of tomorrow with what passes as a fairly well electrified home of today. It has, to begin with, a connected load of eighty-seven kilowatts and its annual current consumption is set at 18,000 kilowatt hours—which means that it employs about thirty times as great a load as an average wired American home. It has ninety convenience outlets and 113 lighting outlets, whereas what passes as an average residence today has only twenty-nine outlets in all. Tomorrow's house has 413 light bulbs and twenty-nine appliances, of which twenty-one are built in and the others are portable. To have such a structure, with such rates as the utilities now charge the domestic consumer for current, seems beyond the reach of possibility. Once a proper yardstick is applied to the production and sale of the invisible commodity, however, the operation of such a habitation may become a mere incident of an everyday world.

GROWTH AND OPPORTUNITY OF MUNICIPAL POWER[9]

In current discussions of the economic and political implications of public versus private generation and distribution of electric current, the statement is often and truthfully made that notwithstanding the alleged advantages of municipal operation, the municipal plants generate only a small percentage of the total kilowatts consumed.

But examine the growth of the municipal plants as compared with that of the strongly entrenched central stations expanding under the urge of a continuously

[9] *American City.* 50:50. September, 1935.

increasing demand for current and an avid market for securities. In the ten years 1922-1932, the statistics of the United States Bureau of the Census show that municipal output increased 174 per cent; central stations 38 per cent. Municipal revenues increased 111 per cent; central station 31 per cent. Municipal capacity increased 190 per cent; central station 61 per cent. This expansion does not include the active municipal history of the last three years.

These increases in the municipal electric industry would have been still larger than they are if the municipal plant had always been regarded as a factory in which kilowatt hours are made, instead of as a weapon, a threat, a retort, and stepping stone. As long as the power issue was purely political, the municipal situation was bound to remain insecure. What one administration demanded, another could forget; what the outgoing administration had built up, the incoming could sell. Competent men appointed by an interested and public-spirited administration could be replaced by political henchmen with little if any technical or business background. It is not difficult to turn a prosperous property, whether public or private, into a liability—just leave it alone, show no interest, neglect its personnel and equipment; the natural process of decay will do the rest. It is not difficult to destroy the bright future of a property—don't develop it.

This is what happened in the case of many municipal plants. Municipal revenues came from taxes, and were reasonably plentiful. Real estate was sound and frequently booming; assessed valuations were being raised quite generally.

The depression changed the picture. Taxes became less popular, sometimes not being paid at all; the real estate market has been very sick and valuations, assessed and real, have gone low. New revenues were and are

needed. Here is the chief reason for the growing interest in the municipal plant—it produces revenue, money. This is making it increasingly interesting in the eyes of public officials. It furnishes a source of revenue about which taxpayers cannot complain. It tends thus to lighten the tax burden, and in this way elicits interest on the part of those taxpayers who are informed on the matter. Some of them are. It can usually sell current, morever, at a lower cost to the consumer, owing to the smaller indebtedness, zero in many instances, and smaller overhead of a municipal plant.

Practically any fair-minded person will concede that the generation and sale of electricity is as much a municipal function, if the citizens desire it to be, as the provision, purification and sale of water, or the collection of garbage, or the collection and treatment of sewage. In each case, it is a service to all the people, to the entire community. If there were big money to be made out of the collection and disposal of refuse, this work too would be a matter of constant controversy. The reason it isn't is because it is confined to each town, and consequently runs to a few thousands, a few hundred thousands. If it were possible to tie this work together for a thousand towns so that the combined revenues ran to seven ciphers and stock could be marketed on it, the question of who should do this work would be highly controversial.

Another reason for increased interest in municipal power is the development of the diesel engine and the improvement of the small turbine, whereby electric power can be generated in small plants almost as cheaply as in large plants. In fact, in a medium-sized town of say 10,000 to 20,000 population, it is possible to place electric energy on the busbars for ¾ cent per kilowatt hour and in the home for less than 4 cents. Having achieved this thru first-class engineering, equipment,

operating personnel and management, all that remains to assure a profitable property is to set a rate that will a little more than pay cost.

To assure a highly profitable plant, one more item is necessary: a management that not only is technically efficient, but that promotes the use of the product. Dothan, Alabama, population 16,000, charges 15.52 cents per kilowatt hour for 25 kilowatt hour and 2.92 cents for 500 kilowatt hour per month. The town of Athens, Alabama, 4,000 population, sells TVA power at 3 cents and 1.38 cents respectively for these quantities. Consider the promotional influence of the Athens schedule: 25 kilowatt hour can be had for $0.75; 100 kilowatt hour for $2.50; 250 kilowatt hour for $5; and 500 kilowatt hour for $6.90. The lowest rate furnishes 20 times the power for 9 times the money. It is difficult to grasp what 500 kilowatt hour per month will do in the home; but it will light, toast, cook, refrigerate, wash and supply hot water. Present average consumption for the country runs from 40 to 50 kilowatt hour, or about one-tenth this amount.

With this tremendous potential market for domestic power, the municipal plant has a bright future. Electricity, for all its essential mystery, is a simple commodity to manufacture and deliver. Municipal plants are producing it successfully in towns of a few thousand population up to the largest cities. In the smaller places, a smaller quantity of technical knowledge with a sufficient element of mechanical ability goes a long way. In most instances, in the large towns as well as the small, the selling, marketing, promotional side has hardly been developed. But this will change with increasing understanding of the rewards to both plant and community from greater use of electricity.

VITALITY AND FORMALISM IN GOVERNMENT [10]

In the work of the Tennessee Valley Authority we are facing the issue of bureaucracy. The President, in suggesting the Tennessee Valley Authority, proposed an organization "with the powers of government, but with the freedom of initiative of a private corporation." It was intended to be an experiment toward breaking the evil spell of bureaucracy, with its deadening and paralyzing inefficiency. The administration of the Tennessee Valley Authority has striven vigorously to escape that palsy. However, the forces within the government which reach out to take every function within their standardizing grasp are very strong, and private interests, which realize that if they can force bureaucratic methods upon the Authority they need have little fear of competition, are also active. The battle against bureaucracy in the Tennessee Valley Authority is not yet won, and to some degree its winning is essential to effectiveness, especially where the government is "in business."

Bureaucracy is not a characteristic of government alone. The older and larger private corporations sometimes have been ridden with it, and because of that fact there continues to be opportunity for the young firm that is free from that disease. Anyone who has a concern for the future of economic and social organization in America, whether public or private, must be aware of this great difficulty. What can be done about it? I have two suggestions.

American government is built on the assumption that public servants probably are dishonest and corrupt, and that a chief function of government is to so surround its servants with checks and cross checks and records and supervision, and by frequently turning out those in

[10] From article by Arthur E. Morgan, Tennessee Valley Authority. *Social Forces.* 13:3-6 October, 1934.

office, that this innate depravity shall in a large degree be checked. To increase the necessity for this policy the spoils system of public patronage often has resulted in selecting officials whose chief interest is what they can get out of it.

During the past twenty-five years it has fallen to my lot to draft legal codes for water control projects, which have become law in half a dozen states. I have acted on the assumption that the best results will ensue where such public improvements are removed as far as possible from political manipulation, and when the best men possible are appointed to responsible positions and then are given the freedom of action of a well managed private business, always subject to constant public examination and accounting. Under such codes I have carried thru a large number of projects in several states during a quarter of a century, and without any case of scandal or bad faith on the part of any responsible employee.

In my opinion this shift from treating public employees as probably dishonest and needing to be constantly surrounded by checks to prevent dishonesty, to the other status of assuming honest loyalty and providing the freedom necessary for effective work, is essential to good government. But along with it there must be elimination of political patronage. Patronage appointments very seldom are the best possible appointments. The menace of patronage to our governmental institutions constitutes one of the greatest dangers to democracy. Bureaucracy is almost a lesser evil. They should be eliminated together.

This policy, of selecting the best available men for the work to be done, irrespective of political alignment, and of giving them the freedom of action of private business so long as they give a good account of themselves, is one way to escape from bureaucracy.

But a vaster bureaucracy looms ahead of us. With "the breakdown of capitalism" we face the prospect of some form of collectivism, by whatever name we wish to call it. I cannot face that unlimited prospect with equanimity. Tho we do our best under any collective industrial system, we may yet find ourselves driven away from the informal processes of judgment which I have described, to more formal processes of rules and precedents in the execution of business, that is to say, bureaucracy.

Are there any alternatives other than collectivism on the one hand, and predatory business as we so often see it, on the other? I believe I can suggest two possibilities. The first of these is the cooperative movement. I shall not discuss that, as its general character is known, and because I wish to draw attention to another possibility.

If private business should come to see itself as a profession, its first duty and its greatest opportunity being to serve the public need, rather than to exploit the public for profit, then we should have all the advantages of a socialized state, as well as the advantages of informal appraisal and judgment and freedom of action that characterize private business. There advantages of private business are not to be overlooked. It is easy to damn big business because of its predatory character, but if we try to compete with it or with small business, we learn of an efficiency and an effectiveness that are not imaginary. The free play of private business has tended to explore possibilities and to eliminate waste in a manner which wins the admiration of a person who tries to do the job better. If to this excellence could be added the quality of the professional spirit, which accepts modest compensation for its services and then puts its whole will and power into the public service, we should, I believe, have a regime that would be far superior to universal collectivism. In the course of time

this professional spirit might dominate the field so that any able business man who did not live by it would be beneath contempt. It is conceivable that government and industry might come to be characterized in large degree by this informal type of organization, with a maximum of freedom of motion and a minimum of both bureaucracy and exploitation. It is a picture of social organization worth keeping in mind.

The Tennessee Valley Authority is expected to consider the social and economic development of the region. It cannot do this in the abstract, but must get down to particular cases, to be treated in some particular way. The rugged individualist abjures the Authority to keep hands off and to let nature take its course. The results of that course are now all too evident. We see where great natural resources have been hurriedly stripped away to get a quick profit, with workmen left behind in hopeless destitution in dead towns. We see existing industries in which the executive salaries and expenses in a distant city, much of them of doubtful value to the industry, are more than all the wages paid in making the product, tho they are in addition to all dividends, interest, depreciation, and selling costs. The few have easy wealth while the many have insecure poverty. The laborers' pay stops when the market fails. The executive salaries continue. Such an industrial policy strips a community of its wealth, or provides a pittance to live on, while all the margin is removed from the community. If possible we should not encourage an extension of that policy in the Tennessee Valley area.

Three methods occur to me as possible lines of development. One of these is public ownership. In the development of electric power in the Tennessee Valley area this method is chosen. Power plants, transmission systems, and distributing systems are being acquired and organized, and an effort is being made to demonstrate that such a system can be operated with

efficiency, without political patronage, and with a minimum of bureaucracy. The success of such a program in a limited area, if not maimed by the sabotage of private interests, or pampered by government, may throw light on the possible success of public ownership and operation of utilities.

Another solution of the industrial problem in the Tennessee Valley Authority area is the development of cooperatives. It is my belief that with adequate and well planned supervision, cooperative industry may help substantially in enlarging the economic resources of the region.

Then, as a third method of procedure, it is my hope that the Tennessee Valley Authority may find here and there an experienced and competent industrial executive who will be interested in the developmnt and administration of an industry on a professional basis. That is, I should like to see industries established and managed, not with the intention of extracting from the industry all the traffic will bear, but with the intent of taking from the industry a modest professional salary, and then of putting all one's ability and resources into creating the best possible product at the lowest possible cost and under the best possible industrial conditions. The relationship we want is that of the president of a great university, the manager of a great hospital or the commander of an army. Any one of these would scorn to profit immoderately from his activities.

Should such industrial leadership emerge, then we should have nearly all the advantages of collectivism and might avoid most of its disadvantages. Many people will say that such an idea is quixotic—that no one but a fool would present it. Yet often the brother of the successful business man is a minister who has given up all prospect of wealth, or is a college professor who knows his compensation will not be in dollars. It is only a prevailing vogue, the cost of keeping up big and ostentatious

houses, and the expensive tastes the family have developed, which prevent able industrial men from taking that course. Once let the vogue set in and the professional spirit in industry might take the country.

The alternatives are cooperatives or some form of collectivism or a continuance of industrial feudalism and predatory business. For many types of industrial activity I believe that private industry conducted in the professional spirit, would be better than any alternative. An ideal industrial society probably would see collectivism, as in fire departments, public schools, and public utilities; associated with cooperative undertakings as in dairy products, other farm products, merchandising, and small manufacturing; and possibly also a considerable development of private industry, motivated, let us hope, by other than a predatory spirit—that is, by a professional spirit in which the quality of the service rendered would be the primary consideration, and the income received a necessary but secondary matter, and in which compensation of management would be limited to moderate salaries, such as now characterize the responsible directors of public undertakings.

Our social and industrial life will be much richer and much more representative of the varied resources and conditions of our country if we can escape the regimentation of any *ism,* whether capitalism or socialism, and can find varied and vital expressions for our industrial life.

PUBLIC UTILITY ACT OF 1935 [11]

The Public Utility Act of 1935 has apparently created more emotion of opposition and support than any major legislation within a decade. Personally, I think that there has been much wasted heat. While, of course, the

[11] By John Bauer, Director, American Public Utilities Bureau. *People's Money.* 2:149-51. March. 1936.

proponents have been thoroly sincere, they are probably mistaken as to public benefits that will be attained. And the tremble of the opposition over expected destruction of private property is hardly based on realistic probabilities. Nothing much is likely to happen either for positive advance of public interest, or for serious detriment of private capital.

First of all, this act represents about the best of legislative workmanship in complicated corporate matters. It is clear in conception both as to purpose and methods. It was drawn up by persons who evidently knew well the complexities and ramifications of the industries concerned and were aware of the corporate, financial and legal obstacles that would be encountered. At least it will serve to raise once more and put to practical test the challenging question whether public regulation of extensive, powerful and resistent business, privately organized and managed, can be successfully established to carry out public objectives. Regulatory history is replete with failure and futility.

I thoroly agree with its general perspective and objective, but I have dealt at close quarters with regulation for many years and I am distinctly skeptical of the effectiveness of the present act. While I hope fervently that it will be a huge success, I doubt whether it can be administered so as to carry out satisfactorily its declared purposes of public interest. This is the crucial question, which should be intelligently considered by everybody interested in clear and effective public policy.

Every holding company with interstate activities and relations is required to register with the Commission, and none is permitted directly or indirectly to carry on its normal activities otherwise. After such registration, and after filing required information as to corporate structures, securities outstanding, balance sheets, income statements, and other data, no company may issue or sell any of its securities or acquire securities and assets of

others, or effect readjustments of corporate organization and holdings, without approval by the Commission. Furthermore, all intercorporate services and activities are brought under the Commission's control, and each system must furnish such reports and adopt such accounting and recording as the Commission may prescribe.

The crucial part of the act is Section II. This directs the Commission to examine the corporate structure of every registered holding company and its subsidiaries for the purpose of determining the extent that simplification of corporate structure and integration of properties may be desirable, and, it imposes the duty upon the Commission, as soon as practicable after January 1, 1938, to require each holding company to limit its operations to a single integrated system, with exceptions for particular reasons and where additional units cannot be operated independently without substantial loss of economies. It forbids particularly the continuance of more than two tiers of holding companies in the same system. Any registered company may submit a plan of readjustment to comply with the act.

There is no doubt but that most holding company systems have little justification from the standpoint of economical organization and management, and they confuse investors and the public at large as to underlying activities and realities. If there is advantage in large scale organization, it comes from integrated territory which permits all the properties and services to be operated as a coherent unit. To a large extent present systems are disconnected, widely scattered, and diffused; their organization is confusing and inefficient. They have served much more the private interests of the small groups in ultimate control than the investors at large and the consuming public.

The holding company act is distinctly designed to promote public interest, and especially to protect in-

vestors and consumers. While I am thoroly in accord with these objectives, I question whether they will be satisfactorily realized because of inexact duties and standards, administrative difficulties, company opposition, and restriction imposed through judicial procedure.

The present systems are huge, far-flung and vastly complicated in corporate and financial structure. Each involves numerous interests which are more or less in conflict with each other. The legal rights are various, and the conditions between systems, and between the numerous parts of each, differ enormously. There are multitudes of grades of securities outstanding, each with its own rights and equities, and there are over-lappings of securities, with interdependent rights and equities.

Under such complications the act could not possibly lay down exact duties and standards for the Commission. Large discretion has therefore been provided. The Commission is directed only with respect to very general objectives and methods. No precise program and procedure are established. This inevitable indefiniteness will be the chief obstacle to the desired reorganization. It will tend tremendously toward deadlock in dealing with the entrenched and varying interests, without infringement upon constitutional property rights.

The essence of the plan is for the Commission to bring about such corporate readjustments and reallocation of physical properties between systems so as to leave in each well integrated facilities capable of furnishing service on the most economical basis. Concretely, this will involve exchange of securities and properties between different systems. To be effective, it will require underlying willingness and ability of the systems to bring about such coherent regrouping on an equitable basis of exchange. If the underlying willingness or ability is lacking, the Commission will face compulsion and, therefore, the gravest of difficulties to bring about reallocation on reasonable terms.

If there should be willingness in individual instances to bring about exchanges for integrated systems, the terms must naturally be agreeable to the principal interests in the groups effecting the exchange and are thus likely to involve property valuations and security issues which can hardly be approved by the Commission without future obstruction to public interest. If, however, the Commission attempts rigorously to keep property valuations and security issues to proper levels, consistent with underlying considerations for rate making, the interested groups will lose their willingness or ability to agree and will proceed with obstruction. Deadlock appears as the most likely outcome.

To bring about reallocation on reasonable valuations and proper capital structure will require very clear seeing and most emphatic determination on the part of the Commission. It may presumably order such reallocation as it will deem desirable and fix proper terms, subject to judicial review. All this, however, requires enormous zeal exerted and maintained over vast territories, numerous systems, and greatly varying conditions, —and subject to uncertain judicial restraints. If one is acquainted with regulatory processes and private capacity for obstruction of public purposes, he can hardly visualize coherent readjustments on terms reasonable from the public standpoint.

The companies themselves are authorized to submit plans of simplification and integration. Along this line I have in mind a step already taken in the state of New Jersey. This state, fortunately, has a wide area of integration, but there are important gaps, and the entire state forms a single region for suitable consolidation. As reported in the press, the New Jersey Power and Light Company, an Associated Gas subsidiary, which has a loosely flung system from the middle central to the western part of the state, is to take over the Jersey Central Power and Light properties, formerly Insull

controlled, which extend along the eastern shore and have interconnection to the central part. If this proposal should meet with approval by the Commission, it would certainly leave the situation in New Jersey but little improved, and would probably render more difficult the ultimate problem or desirable unification.

The heart of the situation is that proposals of integration as made by the various holding company groups will probably not promote materially the public interest. On the other hand, compulsory measures will certainly be resisted by the private interests and to a large extent will probably be defeated in litigation. This probability is particularly advanced by the judicial aspects of procedure and administration.

The act provides for twofold judicial interjection in bringing about the desired reorganization. First, the Commission must grant hearings to the companies concerned, and second, the companies have the right to court review of orders made by the Commission. Such provisions, of course, were unavoidable or the act would quite obviously fall on constitutional grounds; no arbitrary and confiscatory order could be carried out. But they create tremendous difficulties, which in state public utility regulation have produced administrative deadlock and failure to promote actively the public interest.

Look at the situation realistically. On any proposed plan, hearings must be granted and a record made which will stand review in the courts. To this end, the companies must be allowed opportunity to present practically everything that they desire from every standpoint that can be made to appear important. All this will take time, and will create conflicts of view to be argued out in minutia; and the companies will not be in a hurry. The proceedings will be cumbersome, time consuming and costly. The official record will largely preclude the Commission from issuing orders on the basis of really desirable simplification, unification and proper security

issues, consistent with underlying property valuation for purposes of ultimate rate control.

Assume, however, that the Commission has zeal and determination not to let its hearings stop reasonable action, and that it does issue orders to carry out the purposes of the act, then the companies will have immediate recourse to the courts, which will review the underlying rights, contracts and equities involved. This review will lead particularly to consideration of relative valuation of properties allocated between systems, amounts of securities allowed, division of securities between joint interests, and change in voting rights. The courts naturally will be concerned less with the policy set out in the act than with the private rights to be protected under the Constitution. This very judicial situation has been the bane in state public utility regulation, and its importance should be realized before one becomes over-enthusiastic about the national act.

The judicial process leads also to the special difficulty that the Commission must act both as a court and as an interested party. This is rather a conflicting responsibility that tends to reduce public zeal.

The companies will have no such dual duties; they will act most consistently in what they conceive to be their own interest. On the public side there will be lack of corresponding drive for specific objective, without the feeling of judicial restraint.

While the act does provide for other appearances on the public side, but there is no responsibility placed anywhere to represent exclusively the public interest. Any other active and systematic public appearance is quite unlikely. Nevertheless, for more positive and effective public representation, I suggest appearance by individual states to bring about within each state coherent unification of generating and transmission facilities and to provide for proper distribution in the different communities. I have advocated repeatedly statewide integration of

power facilities, with provision for autonomy in local distribution. If now the individual states were to adopt statewide plans and would appear actively before the Commission supporting complete statewide unification and simplification, there would be opportunity for bringing about effective readjustments really worth while from the public standpoint.

I think statewide unification is the necessary minimum unit of integration, and in each state should be brought under a single corporate and financial structure, at least so far as generating and transmission facilities are concerned. If the act is to serve progressively the public interest, I urge state authorities to consider the opportunity placed in their hands to bring about sensible readjustment of power facilities in their states, reorganized and coordinated to serve industry, commerce, agriculture and the homes from the standpoint of general welfare,—and, of course, fair dealing with the private equities that are involved.

I emphasize the state aspect of reorganization because finally the real dealing with the companies in relation to consumers and public interest appears in the states. Except for the superorganization of holding company arrangements, the facilities and services are predominantly intra-state and local in character. While there are important interstate connections in transmission of electric power and natural gas, in the aggregate they are relatively negligible and leave the problem of public dealing essentially with the states and individual communities. All intra-state dealings would be simplified by statewide unification and organization,—tho there would still be plenty of difficulties with valuation and rate adjustments.

As already emphasized, I am in agreement with the broad objectives of the act, but I realize the obstacles that will be encountered. In this realization I can hardly see how the private interests are likely to suffer confis-

cation, though they will be curbed somewhat in exploiting activities. I see no great prospect of public advancement unless the states participate actively for the purpose of establishing individual statewide consolidations and integration of facilities. If such state responsibility were assumed and actively supported, I can see substantial progress in sensible organization and future control of power facilities in the public interest.

EXCERPTS

More than forty years ago Edison advised the electrical industry to insure the premanency of its investment "by keeping prices so low that there is no inducement to others to come in and ruin it." *Morris Llewellyn Cooke. Nation. Je.* 1, '32. *p.*623.

There are in the United States approximately 15,500 communities which are receiving electric service from privately operated companies or municipal plants. The total number of customers served at the end of 1923 was 24,295,000. Of these, 20,006,000 were domestic consumers and approximately 710,000 were rural customers. There were 3,697,000 commercial customers, chiefly stores, office buildings and small shops, and 525,000 large industrial users. This service is supplied by 1,627 privately operated companies and 1,824 publicly operated plants. *Quoted from John E. Randall, Representative from Mississippi. United States. Federal Power Commission Rates Series No.* 6. *p.* 3. O. '35.

A strong incentive that has produced a trend to municipal ownership is the help of our national government in financing. We now have thru the NRA and PWA assistance toward financing of sound and worthy projects, and the policy of the government is one of giv-

ing to municipalities the undeniable right of ownership and operation of their utilities, and the loaning to the municipalities, by the government, of approximately 70 per cent of the cost of these utilities and 30 per cent a free grant, has given hundreds of cities encouragement for the establishment of these utilities. *R. E. McDonnell. "Recent Trend to Municipal and Public Ownership in the U.S." p.9. '33.*

Public ownership of power is one of the greatest issues facing the people today. Not many years ago, as an element of state and national policy, this meant public ownership and development of the major water power resources—it was merely associated with the idea of conservation. Today it means nothing if it does not mean extension of public ownership and operation to the distribution facilities, because it is in power distribution that the forces of greed deprive the people of the full advantages of their power resources. It is still a part of the broad movement for conservation, but it is conservation much more broadly and fundamentally conceived. *Frank P. Walsh. New York Power Authority. Public Ownership Conference. Proceedings,* 1935. *p.*50.

The enactment of laws in 1934-35, and the appointment of committees of investigation, to the end that the duties of the public utilities commissions may be performed more effectively, indicate that confidence is still widely held in the commission system of regulating industries affected with a public interest. On the other hand, the increase and variety of public corporations empowered to furnish public utility services, and the divorcing of such services from the regulation and control of the traditional public service commissions, introduce elements of uncertainty in the field of utility regulation.

At present it would appear that federal-state relations concerning the development and control of public utilities must be defined more exactly before the status of public utility commissions can be more clearly determined. *Orren C. Hormell, Boudoin College. American Political Science Review. Je.* '36. *p.*537.

This issue, in the past, has been debated chiefly between the advocates of complete private as against complete public ownership. But the experience of the last five years, both practical and investigatory, suggests that the lines need not necessarily be drawn in terms of such absolutes. Public competition implies only so much public ownership as may prove necessary to restore and maintain an orderly operation of electric power supply in terms of the public interest. It serves the twofold purpose of establishing standards, the "yardstick" idea, and of offering an alternative method of power supply to any area in which the private power interests refuse or fail to meet the implications of such standards. In an important sense it leaves the question of the extension of public ownership up to the industry itself. *Leland Olds, Executive Secretary, Power Authority of the State of New York. Yale Review. Je.* '35. *p.*705-6.

An interesting development has been the attitude of the metropolitan press and the interest and concern of the larger municipalities. Heretofore, smaller cities of from 10,000 to 50,000, and even smaller than this, pointed the way—establishing such successful municipal light and power plants as to be used as examples in other cities. Now we have outstanding newspapers advocating and committed to the cause of public ownership as a solution of their utility problems. The time was when these metropolitan journals refrained from reporting the successful municipal plants, and refrained from saying anything complimentary concerning municipal

ownership and operation. This has all changed in the last few months, and we now see such outstanding papers as the St. Louis *Post-Dispatch,* The Birmingham *Post,* the Sacramento *Bee,* the Los Angeles *Examiner,* the Knoxville *News-Sentinel,* Milwaukee *Journal,* the Scripps-Howard papers, and other leading metropolitan journals giving the widest publicity to the achievements of the municipally owned utilities; and where franchises are expiring thruout the country, municipalities are invariably investigating the possibilities of municipally owned utilities. *R. E. McDonnell. "Recent Trend to Municipal and Public Ownership in the U.S." p.6-7. '33.*

The chief problems of the utilities are concerned with the future. These primarily affect the electric utilities and secondarily the gas utilities. For the sake of brevity attention will be given principally to the electrical group. Disregarding minor ones these problems may be summed up as follows:

1. Heavily increased taxes and increased operating expenses.

2. The difficulties of refinancing maturing obligations, and of new financing when this is needed.

3. The difficulties of getting the public to understand the controlling facts of the business and the ethical standards actually maintained.

4. The widespread campaign of general abuse and misrepresentation, coupled with unreasonable demands for general rate reductions, and agitation for municipal ownership and operation.

5. The effects of the collapse of several large utility organizations.

6. The policy of the federal government to force general rate reductions, both by direct competition and the so-called "yardstick" method.

7. The policy of the federal government with respect to the public ownership and operation of power plants. *William H. Hodge. Byllesby Engineering and Management Corp. Public Service Magazine. My.* '34. *p.* 155.

In connection with this subject of government ownership, a pertinent question is: What is the possibility of obtaining from a court a mandatory requirement that governmentally owned and operated services should have a rate structure providing a self-supporting revenue basis? Speaking of the existing legal system, the answer is simply this: There is no such possibility. Once the government or a municipality is given the proper legislative authority to engage in a public service enterprise, no court of law or equity would, in the absence of evident fraud, interfere with the running of that enterprise even if it resulted, as it does in many cases, in a partial subsidy to certain consumers.

From the viewpoint of the social philosopher—and today we are all by necessity social philosophers—it is at least arguable that refusal of the courts to interfere is socially desirable. There is nothing inherently unwise, unjust, or illegal in granting a partial subsidy to the users of a revenue-producing enterprise. Witness the postoffice, the shipping industry, the airplane industry, the publishing industry, and all advertisers who use the advantageous postal rates. Electric power is, and will increasingly become a public necessity, and there is much to be said in favor of giving the government the fullest measure of control over its production and distribution. *James P. Gifford. Columbia Law School. Civil Engineering. Mr.* '34. *p.*123-4.

Municipal utilities make cash contributions to the city for various purposes. Among the most important of such contributions are payments to the municipal general fund, payments on the interest or principal of

the municipal debt not contracted for the benefit of the utility, and payments to special city funds.

The total of taxes paid and cash contributed in 1933 by the 1,618 reporting utilities averaged respectively 0.9 per cent and 14.2 per cent of their operating revenues. These figures compare with total taxes paid by the reporting private utilities, which amounted to 12.5 per cent of their base revenues in 1933.

The compilation of the replies from 518 (municipal) utilities reveal that their tax payments amounted to 1 per cent of operating revenues in 1934 as compared with 1.1 per cent for the same utilities in 1933; cash contributions averaged 14.9 per cent of operating revenues in 1934 as compared with 13.9 per cent in 1933.

It is the general practice for municipal electric utilities to furnish energy to the municipality either free or at a nominal charge. "Free services", therefore, become of importance along with taxes and cash contributions in comparing the rates charged by private and municipal utilities. The municipal services of primary importance are street and park lighting, water and sewage pumping, and light and power for municipal buildings. Energy is also commonly supplied for traffic lights, fire alarm systems, and other miscellaneous uses.

On the other hand, certain services are often rendered free by the municipality to the electric utility. Such services may include free office space, joint superintendence, meter readings, collection of bills, etc. *United States. Federal Power Commission. Comparative Rates of Publicly and Privately Owned Electric Utilities. Rate Series no.* 5. *p.*37-8. '36.

Control of power is a social as well as an engineering and economic problem. If the flow of electricity should suddenly cease, it would be a national catastrophe of unimaginable magnitude. Our homes, streets, and highways would be in darkness. Street cars, subways, ele-

vators, and conveyors would suddenly stop and even railroad transportation would be impossible at night without electric signals. Radios would cease to function and the ships on the high seas would be immediately endangered. Factories would be forced to shut down, modern bakeries would cease to produce bread, the water supply of cities would be interrupted by the failure of the electric pumps and perishable food would rapidly deteriorate for lack of refrigeration. There would be no fire alarm, no burglar alarm, no telegraph, no telephone, and few newspapers. Electric light and power has come to be almost as essential an element in our daily lives as the bread we eat and the water we drink. Modern civilization would collapse with the failure of the sources of electric light and power.

The national safety and welfare, the productivity of our industries and the comfort and convenience of our homes are thus dependent upon the maintenance at all times of an abundance of electricity available at rates which will permit its use wherever it is needed. We must, therefore, not only provide for our immediate requirements but we must also plan for continued improvement and expansion of the nation's electrical systems to meet the demand that may be reasonably anticipated for the future. *United States. Federal Power Commission. National Power Survey; Interim Report,* 1931. *p.XI.*

The sole purpose of this memorandum is to consider whether, in the light of all relevant information, the Public Utility Act of 1935 will result in the impairment or diminishment of state control and regulation of public utility companies. The conclusions which we are forced to draw may be summarized as follows:

1. The proponents and chief sponsors of this act in both houses of Congress considered that state regulation of utilities was inadequate, not because of jurisdictional defects but rather because of the failure by state com-

missions effectively to administer and carry out their powers of regulation.

2. The act by specific terms (both the Power Act and the Holding Company Act) asserts jurisdiction over a substantial majority of the public utility companies of the country which have hitherto been subject to state regulation.

3. The activities of such companies which are subjected to regulation and control by the Power Commission or the Securities Commission embrace practically all of the usual business and utility activities of such companies normally regulated by state commissions.

4. The present activities of the Power Commission under the Power Act indicate forcefully that the Commission intends to claim every vestige of jurisdiction and power to which it might be entitled under the most liberal interpretation of the act.

5. The one important matter of regulation not specifically conferred upon the Power Commission by the act, namely, the regulation of rates and standards of service for local retail sales of electric energy, may be seriously threatened if the precedent encroachment upon state regulation of railroads under the Interstate Commerce Act, by federal regulation thru the Interstate Commerce Commission, is followed in the case of the Power Commission.

6. Regulation of such local retail rates is already seriously hampered by the authority given the Power Commission under the act over important related subjects such as accounting, depreciation, fixing of fair value, and the like.

7. The reservations of states' rights which may be found in the act are unlikely to be sufficient to offer any serious obstacles to the substantial emasculation of state regulation and control. *"Effect of the Public Utility Act of* 1935 *Upon State Regulation of Public Utilities." p.*66-7. *Committee of Utility Executives. Mr.* '36.

The conclusion by no means follows from what has been said that it would be an advantage to Massachusetts if all the present private companies should become municipal properties. On the contrary, the character of the government of many of our cities is such that, in the opinion of the writer, it would be a calamity of the first magnitude if they should take over the local electric and gas plants. A number of years ago when the rates of the Boston Edison Company were relatively higher than they are today, a certain customer of that company remarked that the best argument he knew in favor of municipal ownership was the domestic rate-schedule of the Boston Edison Company and that the best argument he knew in favor of private ownership was the quality of the Boston City Council. In certain localities where rates are out of line and where there is a reasonable amount of civic pride and self-respect, the consumers may well demand lower rates and if they fail to get them start proceedings to have the town acquire the local distributing system.

It would also be a calamity if the private companies should acquire the existing municipal plants. The present situation with private companies and municipal plants existing simultaneously in adjacent communities is far healthier than it would be if either group entirely superseded the other. The private companies, with the highest quality of engineering at their disposal, can continue to pioneer and develop improved methods in the generating plant, on the lines, and in the office. The more efficient of the municipal plants with their lower rates are a potent aid to regulation—in fact, a most effective form of regulation. They tend to hold domestic rates in neighboring communities within reasonable limits and, if a short-sighted holding company should carry too far inflation of local operating costs and fixed charges, the municipal plants might well provide an invaluable standard of

comparison. *Charles H. Porter, Massachusetts Institute of Technology. Journal of Land and Public Utility Economics. N.* '31. *p.*437-8.

It has been stated frequently that there is no such thing as a scientific wage; so it may be said that there is no such thing as a scientific electric rate. If there were, the bewildering variety and complexity of existing rate practices would be unpardonable. Someone defined an electric rate as "a formula determining the amount paid by customers for electric energy under definitely given conditions." But the author promptly adds that "it is not a single formula, but a set of formulae which are combined under the term 'rate schedule.' "

There are numerous reasons for the complexity and variety of electric rate schedules, the most important of which are summarized below:

1. The feature of competition which ordinarily has a great influence on both character and scale of prices for most commodities, has been lacking in the case of the typical electrical utility. Moreover, regulation which serves as a substitute for competition in most states has usually not exerted influence in the direction of simplifying and standardizing rate schedules.

2. A second factor is the force of tradition and to some degree of inertia. Many existing schedules can be explained only in terms of rate forms that were originally adopted when the given company was a small local concern under local management. Thru the pressure of public opinion or of the regulatory agency, rates have been reduced, but the basic schedules to which both customers and management are accustomed have not been changed in line with enlightened practices.

3. Electric energy cannot be stored, but despite this it must be always available under standard service conditions to each and every consumer at any time of the day or night, and to the amount that the consumer sees fit to

take. This readiness to serve, as it is commonly called, determines the capacity of the plant, of the transmission and distribution systems, and thus the investment of the company. It is the basis of the investment charges in which each and every customer properly shares.

4. Other factors that justify differences in rate levels, but not necessarily in rate forms, are the character and density of the population and the diversity of consumers' requirements, both as to time of day and amounts used. Geographical conditions, accessibility to fuel or to water power, and seasonal usage also enter into the costs of electricity and thus into the price to be paid. Finally, tax burdens are far from uniform, particularly as between the different states.

Because of these variables it is advisable to exercise some caution in making comparisons of rates between one place and another and one type of service and another. In other words, some discrepancies may be due to unprogressive rate policies, while others are due to conditions beyond the control of the companies serving various communities. *Basil Manly. United States. Federal Power Commission. Electric Rate Survey. Preliminary Report. p.*4. '35.

We must go back to first principles: a utility is in most cases a monopoly, and it is by no means possible in every case for government to insure at all times from mere inspection, supervision and regulation that the public should get a fair deal—in other words, to insure adequate service and reasonable rates.

I therefore lay down the following principle: That where a community, a city or county or a district is not satisfied with the service rendered or the rates charged by the private utility, it has the undeniable right as one of its functions of government, one of its functions of home rule, to set up, after a fair referendum has been taken, its own governmentally-owned and operated service.

That right has been recognized in most of the states of the Union. Its general recognition by every state will hasten the day of better service and lower rates.

It is perfectly clear to me and to every thinking citizen that no community which is sure that it is now being served well and at reasonable rates by a private utility company will seek to build or operate its own plant.

But on the other hand, the very fact that a community can, by vote of the electorate, create a yardstick of its own, will, in most cases, guarantee good service and low rates to its population. I might call the right of the people to own and operate their own utility a "birch rod in the cupboard, to be taken out and used only when the child gets beyond the point where mere scolding does any good."

That is the principle that applies to communities. I would apply the same principles to the federal and state governments.

State-owned or federal-owned power sites can and should properly be developed by government itself. When so developed, private capital should be given the first opportunity to transmit and distribute the power on the basis of the best service and the lowest rates to give a reasonable profit only.

The right of the federal government and state governments to go further and to transmit and distribute where reasonable and good service is refused by private capital gives to government, viz., the people, that same very essential "birch rod" in the cupboard. *President Roosevelt. Portland, Oregon, address, Sept.* 21, '34.

1. The use of electricity for domestic purposes as well as in certain branches of industry has grown at such a rate during the depression that, upon a resumption of normal industrial activity, the demand for power will be at least 4,000,000 kilowatts in excess of that

which existed in 1929. This is equivalent to the capacity of some 50 large generating stations.

2. Very little new generating capacity has been constructed by the privately owned utilities since 1930. As a result, the capacity of existing plants is 2,325,000 kilowatts less than the demand that will exist for power upon a resumption of pre-depression industrial activity, assuming maintenance of normal reserve capacity.

3. This shortage is being rapidly accentuated by the obsolescence of plants which would have been replaced under normal conditions. As of January 1, 1935, 56 per cent of the total installed steam-electric capacity of the United States was at least 10 years old, 11 per cent was 20 years old or older, and about 1 per cent at least 30 years old. Inefficient and obsolete plants with a capacity of at least 2,000,000 kilowatts should be scrapped and replaced within the near future.

4. Analysis by districts of the relation between the capacity of existing plants and the demand that will be created with the resumption of normal industrial activity shows that critical shortages will exist in almost every section of the United States. The only regions in which substantial surpluses of capacity now exist to meet normal demand are Florida, part of Michigan, an area along the lower Mississippi, North Dakota, Idaho, Utah, and New Mexico and parts of Texas, Minnesota, Montana, Washington, and Oregon.

5. Government plants provided for or under construction will meet these shortages in certain limited areas. Many of the regions where the greatest power markets now exist and where the shortage will be most acute when industrial activity is renewed do not have projects under construction at the present time sufficient to carry the loads that will develop upon resumption of normal industrial activity.

6. In view of the time required to plan and construct large generating plants, whether hydro or steam, early

construction of new plants with an aggregate capacity of between 3,000,000 and 4,000,000 kilowatts is imperative. This would involve capital expenditures of at least $300,000,000.

7. The critical shortage of existing generating capacity most seriously affects the great industrial districts of the East and Middle West. It would, therefore, be disastrous in case the United States should become involved in war. The situation might be even more acute than that which existed during the World War when, in many districts, electric service had to be denied to domestic and commercial customers and nonessential industries to meet war needs for power.

8. Careful planning under federal supervision of new power plants and facilities for transmission is required to promote the safety and welfare of the nation. *United States. Federal Power Commission. National Power Survey. Interim Report,* 1935. *p.X.*

AFFIRMATIVE DISCUSSION

AN EMINENT SOCIALIST'S VIEW OF PUBLIC UTILITIES [1]

The capital structure of American business and utilities is top heavy. The fixed long-term private and public debt is too high. Interest and profits based on our capital-structure, representing as it does inflated values, have been a millstone around the neck of the American people.

With the advent of the giant corporate organization in industry its fixed indebtedness increased very rapidly. Capitalist business morality says: no matter what happens to wages, even tho wage-earners are the bulk of consumers and their purchasing power is essential to recovery, interest on bonds must be paid and profits must be made to pay dividends to stockholders in order to "attract capital." Yet, people wonder why we are not emerging from the depression.

The burden of long-term indebtedness in the field of public utilities is many times as great as that in industry. In 1932, the fixed indebtedness of the industrial corporations in the country was only about one fifth their 1930 tangible assets. The fixed indebtedness for the railroads and the public utilities for the same period represented about half of their book value. In 1933, the railroad debt accounted for 11.3 per cent of the total debt of the country, and the public utility business for another 8.9 per cent.

In the present emergency, a drastic cut of the interest rate by law is socially desirable, but experience has

[1] By Louis Waldman. *Public Utilities Fortnightly*. 15:453-9. April 25, 1935.

shown that the utility business does not as a rule pass on its savings to the public.

What these public utilities mean in terms of cost to the American people, has been emphatically stated in the report to the New York legislature by its Commission on Revision of the Public Service Commission Law:

> When it is considered that the total annual income of the public utilities in the country approximates $10,000,000,000, the necessity of subjecting the methods whereby such earnings are determined to the most careful criticism and review, is obvious. This is a matter of national concern.

The utility companies have been granted monopoly rights by which they levy an annual toll on the American people over three times as large as that collected by the United States every year to carry on the national government. It amounts to an annual tax of over $400 on every family.

Then there are social implications in the control of these monopolies which go much deeper even than the financial cost. In an urban, industrial civilization utility services and commodities are so essential to our existence as to be hardly distinguishable from other social services such as the administration of justice, the management of our free public schools, our public health department, our police agencies, our parks, libraries, etc.

Of all utilities, electricity is now foremost. In the short space of one generation we have become so accustomed to the use of electrical slaves to transport us, feed us, clothe us, light our way, amuse us, count for us, and inform us, that we are rarely aware of the veritable revolution that electricity has affected in industry, transportation, agriculture, communication, recreation, medicine, and life in the home. The discovery of electric power has ushered in a second industrial revolution as powerful in its effect as the industrial revolution of the late eighteenth century based on steam power. Electric energy has become the most vital force in modern life.

In the short space of thirty years, the amount of electricity generated annually at electrical stations in the United States increased thirty-two times, from 2,507,-051,115 kilowatt hours in 1902 to 79,657,466,651 in 1932. During the same period, the value of plant and equipment of central electric light and power establishments increased twenty-five times, from $504,740,352 to $12,-664,376,952; of telephone companies twelve times, from $389,278,232 to $4,734,705,708; of telegraph and cable, three times; of electrical railways 1.8 times, from $2,-308,282,099 to $4,734,705,708.

The gross income of the electrical industries rose from $463,982 in 1902 to $3,944,360,333 in 1932—an increase of 850 per cent.

This vast expansion of electric power consumption is destined to increase in the next few decades. Hundreds of thousands of homes and farms are still untouched by the magic current. Thousands of miles of railroad are as yet not electrified. With the daily addition of scientific discoveries, the advent of television, the progressive perfection in the technique of production and distribution, electric power becomes indispensable to our twentieth century society.

The public utilities of America are still privately owned and operated as state-protected monopolies. They are controlled by inside promoters and financial manipulators for their own profit. A survey of the public utilities in New York city reveals that in a year of grave crises, the gas, electric, telephone, water, and transportation companies showed a total of over $62,000,000 in excess earnings over 6 per cent on their common stock equity.

This situation is not peculiar to the city of New York, but is typical of the utility profiteering thruout the nation.

The recent investigation of the power industry by the Federal Trade Commission startled a complacent public

out of its lethargy and ignorance by its exposé of the machinations of the power trust thruout the length and breadth of this land. One of the most outstanding facts revealed by the investigation was the almost universal practice of inflating the capital accounts. In nineteenth century business parlance, this practice was crudely referred to as "watering stock."

Today, however, our big business minds have invented new terms: inflation, appreciation, revaluation, and "write-up." But it is essentially the same old game of adding fictitious values to the original investment. The function of the inflation or "write-up" is to justify enormous earnings. For example, an investment of $1,000,000 may be earning 16 per cent. To justify this, the capital is inflated to $2,000,000 so that the rate of earnings appear to be only 8 per cent. Otherwise courts, commissions, and consumers might grow agitated and demand reductions in rates. An actual instance of this is the case of the Electric Bond and Share Company which owned, on December 31, 1927, common stock of other companies which were carried in its accounts at $20,310,516.48 but the actual cost was only $9,161,109.94. The balance, $11,149,406.54, represented write-up thru reappraisals, values placed on stock dividends, and values placed on bonus stocks issued. Another device to hide excessive earnings is that of splitting the stock, making 2 or 5 or 10 shares appear where there was only one before. This decreases the earnings per share and makes them appear much less than they are. Every sale, merger, or reorganization becomes an occasion for recapitalization.

Every increase in earnings is used as a basis for further capitalization. With the Federal Trade Commission investigation only half finished, Senator George

W. Norris made public on July 12, 1932, the write-ups of the great utilities reported up to that time as follows:

Electric Bond & Share Co.	$399,201,827
The American Gas & Elec. group	85,992,660
Amer. Power & Lt. Co. group	68,448,932
Middle West Utilities	30,816,770
New England Power Ass'n	41,575,771
W. B. Foshay Co. & subsidiaries	4,018,954
The Alabama Power Co.	6,392,242
Georgia Power Co.	33,453,500
Southern Power Securities Corp.	26,898,275
Louisiana Gas & Electric Co.	2,013,500
Louisiana Power & Light Co.	10,076,594
Mississippi Power & Light Co.	10,714,544
Nebraska Power Co.	2,521,063
Carolina Power & Light Co.	22,414,834
TOTAL	$744,539,466

And on these huge inflations, the consumers must continue to pay rates that will produce 6 or 8 per cent forever after. Frequently on the basis of this over-capitalization, the utilities have successfully obtained increased rates, which in turn have produced increased earnings, and set the cycle in motion again.

Regulation, which, it was once thought, would give the public protection against the utility companies' worst abuses, has completely broken down.

Regulation may be defined as an effort by the state and nation, thru the establishment of commissions, to supervise and control the operation of the utility companies so as to secure for the public adequate services and reasonable charges. Wisconsin was the first state to establish, in 1907, a permanent, presumably expert, regulation commission. New York followed in the same year. At the present time, every state but one has a regulation commission. The federal government has its own regulatory machinery.

After twenty-five years of experience with systematic regulation by the public service commission, New York state created a commission charged with the duty of

"ascertaining whether the Public Service Commission law . . . accomplishes the objects for which the system of state regulation was established."

The minority report submitted to the legislature by Walsh, Bonbright, and Adie, states this basic finding:

> On the basis of this intensive investigation, we find that effective public utility regulation in the state of New York has broken down and that the consumers of the state have been abandoned to the exploitation of the public utility companies without any effective restraint by the public service commission.

In another place, this report adds the warning or the threat, that:

> Unless effective regulation can be restored, there is bound to be a rapid shift of public opinion in favor of public ownership and operation.

The majority of the commission, thru its counsel, William J. Donovan, reported to the legislature the same conclusion, in somewhat more cautious language, by saying:

> Leaders of utilities must look upon themselves as economic servants of the public, as state officials are the political servants of the public. If this is only a utopian idea, then, in my judgment, regulation is impossible. The alternative is not coercion, because that can only bring resort to the courts with resultant resentment and bitterness. The only feasible alternative is public ownership.

We are told that legal coercion is useless because the companies will "resort to the courts." But why should their resort to the courts prevent state coercion, if that becomes necessary in the public interest to secure adequate service at reasonable rates?

The answer lies in a series of Supreme Court decisions beginning with the Minnesota Rate case, in 1890. The court's view of the meaning of the terms "property" and "liberty" as used in the Constitution of the United States and its conception of reasonable return upon the "value" of the utilities have reduced regulation to a mere guess.

The utilities have constructed a whole host of devices to avoid and nullify all attempts at regulating them in the public interest. One of them is the holding company. Contracts between operating companies and holding companies are not subject to adequate commission control. Tho the rule that evidence of collusion must be shown has been relaxed there are still practical and legal obstacles in preventing exorbitant contracts which rob the consumers. Another device is the recapitalization of operating companies as the basis of high prices paid for them by holding companies eager to round out their systems.

Power sold wholesale across state boundaries has also successfully eluded regulation. It is little wonder that the utilities are today the most ardent advocates of regulation. They have so devitalized it that it is no longer a menace to them. It is an empty form. But even empty forms have their uses, for the utilities regard regulation as a buffer to protect them from attack by the public, and as a means of combating the growing sentiment for public ownership.

One of the most important facts revealed by the Federal Trade Commission investigation was the existence of great concentration of control in the power industry. Thru such devices as mergers, reorganization, and combinations; direct ownership of voting stock; interlocking directorates; the voting trust; control of proxies; control of the issuance of stock; and thru supervision of operating companies by holding companies, 13 companies in the power industry have direct control of 66 per cent of the output and are connected among themselves in such a way as to reveal a working identity of interest.

The holding company, a most remarkable legal mechanism, usually only owns securities of operating companies, or of other holding companies. Thus, in a modern business pyramid, the holding company at the

very top controlled with very little wealth affects an ironclad concentration of control. Thru this control, it manipulates for its own benefit the earnings of the industry.

Small wonder, therefore, that the ownership and control of the electric power industry as of other utilities has become a foremost issue before the American people? The depression accentuates that issue.

A survey of municipally operated electric utilities shows that they have served the consumers successfully in such cities as Seattle, Cleveland, Los Angeles, Kalamazoo; Marshall, Missouri; Springfield, Illinois; Muscatine, Iowa; Colorado Springs, Colorado; Sioux Falls, South Dakota; etc. The federal government's projects at Muscle Shoals and Boulder dam will also serve a large area. For many years, the publicly owned and operated Ontario Hydro-Electric Power system in Canada has put to shame the private "public" utilities by its successful operation of power for the benefit of the people of Ontario. It has been able to render its services to consumers at rates so far below those charged by private companies that it constitutes a challenge to their control and supremacy thruout the states. A comparative study of rates charged by Ontario's publicly owned system and those charged by private companies in western New York, whose electricity is generated largely by water power, was made by a committee of economists and engineers. They concluded that "in the total areas compared, the New York revenues per kilowatt hour from all services was 140 per cent of the Ontario revenue per kilowatt hour."

This finding is especially significant because Ontario revenue is derived mainly from the sale of electricity to domestic consumers and farmers who purchase 75 per cent of the total Ontario power, while New York sells mainly to industrial and commercial consumers, the domestic consumers for the area compared purchasing only 4½ per cent of the total power.

The Niagara-Hudson group of companies, which control two thirds of all electric energy in New York state, charge to these domestic consumers for only 4½ per cent of the electricity sold by that group an amount equal to 20 per cent of their gross income. If, therefore, the private companies sold 75 per cent of their total current to domestic users, like the Ontario publicly owned system, the New York revenue per kilowatt from all services would have been much higher than 140 per cent of the Ontario revenue. New York rates, according to the committee survey referred to above, were much higher than those of Ontario. "Sixty kilowatts cost $1.30 in Toronto, $3.60 in Buffalo, $3.65 in Rochester, $3.81 in Syracuse, $4.35 in Utica, and $2.80 in Niagara Falls."

In 1933, domestic consumers in the nation used only 18 per cent of the electric power sold but paid 37 per cent of the total revenues derived from sale. The domestic consumers paid an average price of 5.49 cents for a kilowatt hour while large wholesale purchasers paid only 1.38 cents. Gas tells a similar story. Domestic consumers, in 1932, paid on the average $1.24 per thousand cubic feet of gas, while industrial and commercial consumers paid only 94 cents per thousand cubic feet. It is, therefore, obvious that industrial and commercial users have a bargaining point in their threat to install their own generating plants, pay low rates, while the small consumers must take what rates are given them—or be without service.

Thoughful people are beginning to ask: In the light of enormous exploitation of consumers by the private utility companies, in the light of a host of abuses which private ownership and operation has brought in its train, in the light of the breakdown of regulation, what is to be done? The alternatives today are two: either we permit the utilities to continue, the people taking the consequences, or we resort to the public ownership and operation of the utilities, and run them for the benefit of the people.

Experiments in this country, in Canada, and in Europe have amply proven the efficacy and the desirability of public ownership. Public financing of the electrical industry alone would save for the consumers between 300 to 400 million dollars a year. In twenty years, this saving, including the savings on the estimated annual increases in the business, would amount to about 10 billion dollars, enough to retire the entire capital now invested in the electrical industry.

To the masses of the nation public ownership would mean the lightening of many burdens. There are hundreds of thousands of housewives for whom housework lasts from sunrise to sunset. Thousands upon thousands of farmers are still doing their work in nineteenth century ways.

FEDERAL GOVERNMENT AND THE PUBLIC UTILITIES[2]

If all that has been said by the spokesmen for the utilities as to the baneful effects of the administration's power policies were true, you might reasonably expect to find that the private utilities were on the verge of bankruptcy, that their stocks and bonds were selling for only a fraction of their true investment value, and that these companies operating in the vicinity of the Tennessee Valley Authority were about to go out of business.

But what are the facts? When we disregard propaganda and look at the actual cold figures of the industry, we find that during the week ending June 27, 1936, the electric power output of the nation's utilities reached an all-time record output of 2,029,639,000 kilowatt hours, that the output of the year 1935 was more than two billion kilowatt hours above that of 1929 and

[2] From address by Basil Manly, Vice Chairman of the Federal Power Commission, before the Institute of Public Affairs, University of Virginia, July 15, 1935. p.7-11.

will certainly be exceeded by the year 1936 by a substantial margin.

This phenomenal increase in the use of electric energy is in large measure a result of the decreases in rates for all classes of electric service during the past three years. We do not have an exact measure of the extent of these decreases but if we price the sales of electric energy in 1935 on the basis of the average revenue per kilowatt hour of 1932, we find that the actual cost in 1935 represents a saving of $232,000,000. Another indication of the extent of electric rate decreases during the period in which the present administration's power policies have been in effect is to be found in the fact that, during the two years ending June 30, 1936, 70 of the 92 cities having a population of 100,000 or more have enjoyed reductions in rates for domestic and residential service. At least a dozen more of these great cities had already had rate reductions during 1933 and the first half of 1934. Altho exact figures are not available, it would appear that much the same proportion of smaller communities enjoyed rate reductions and that all told something like 80 per cent of the nation's consumers of electric energy have received material benefits.

Superficially, it might be expected that these nation-wide reductions would have worked a great hardship on the electric utilities. But they have in fact been largely, if not entirely, offset by two powerful counter-balancing influences. The first is the increase in average use per customer that almost invariably follows electric light reductions. Taking the country as a whole, average use per residential consumer advanced from 611 kilowatt hours in 1932 to 673 in 1935, according to the industry's figures. It is interesting to note at this point that some of the greatest advances in the use of electricity have been registered by these companies—Tennessee Electric

Power, Alabama Power and Georgia Power—that operate in close proximity to the Tennessee Valley Authority.

The second great influence, offsetting the effect of rate reductions, is the tremendous saving that has been secured by the utilities thru refunding their bonds, notes and debentures at the low interest rates which are now effective. During the 17 months from January 1, 1935 to May 21, 1936, the public utility holding and operating companies issued and sold a total of $1,720,536,000 in new securities. During the month of May 1936 alone they registered in additional $144,643,000 in new securities for sale at an early date making a grand total of $1,865,-179,000 issued or about to issue. Almost without exception, these securities have been issued to refund old utility issues that in many cases would not mature for many years. Now the new securities, especially those issued during recent months, as a rule bear interest rates of from 3 to 4½ per cent and replace issues that paid from 4½ to 6 per cent. Time has not permitted an exact determination of the amount of savings in fixed charges thus brought about but, if we assume conservatively an average saving of only 1 per cent, after allowance for call premiums, discounts and expenses, the saving amounts to nearly $20,000,000 a year on that part of the bonds and other obligations which have been refunded.

In this connection, it is instructive to note the recent statement of C. W. Kellogg, Chairman of Engineers Public Service Company and President of Edison Electric Institute, in commenting with general approval upon the Securities Act, that for the $1,280,000,000 of bonds sold by electric utilities thru bankers during the fourteen months ending April 1936, the average percentage charged by these bankers was 2.15 points, which was less than the rates prevailing ten years ago by much more than the cost of registration under the act.

Attention may also be directed to the fact that these tremendous security issues bearing unprecedentedly low

rates of interest have been sold since the introduction and passage of the Public Utility Act of 1935 which, it was charged, would wreck the entire industry. If this is destruction, it is certainly a new brand that the average citizen would be happy to enjoy.

So much for the bonds of the utilities; how about their common stocks? One of the favorite tricks of the utility propagandists is to take a chart based on the high point of the 1929 stock market and show that the utility index has fallen farther and reacted less than the industrial and railroad stock indexes. This, it has been seriously argued, proves that the power policies of the present administration have been peculiarly destructive of the utility stock market values. This, of course, ignores the fact that the Insulls, Foshays and others had completely destroyed the confidence of the investing public in utility stocks long before Franklin D. Roosevelt had even announced his candidacy, but it is one of the most plausible arguments the utility propagandists have, so it continues to be used.

Let us put the facts regarding utility stocks in proper perspective and learn the astonishing truth about this important matter. Here is a chart prepared by the Federal Power Commission showing separately for the first time the index of market values for electric utility holding company stocks and for electric utility operating company stocks. On the same chart and the same scale are plotted the standard Dow-Jones indexes for industrial and railroad common stocks. The story told by the chart begins in 1920 and comes down to May 1936. Before we examine it more closely, let me direct your attention to the essential fact that the value of holding company stocks is based almost exclusively upon the value of the operating company stocks which they control.

Now let us look at the chart. What do we find? In the first place, from 1920 to 1930, the utility operating

company index and the industrial index followed much the same course, with the railroad index lagging below both thruout the entire period. The industrial index reached a somewhat higher peak in 1929 at 340 than the operating company peak of 305 but both were far above the 1920 basing point of 100 for all indexes. The railroad index reached its peak at 211.

For all three classes of stocks this rise within a period of 9 years was phenomenal, finding its precedents only during such periods as those of the South Sea Bubble and other frenzied speculations. But what was happening to the holding company index during this same period? We find that it climbed slowly but at an accelerating rate thru 1924. If it had continued this rate, it would have reached a peak of about 475 in 1929. But, beginning with the Coolidge boom of 1924, the holding company index assumed a new rate of acceleration and sky-rocketed to a peak of 971 in 1929—nearly 10 times its average level of 1920. This peak for the holding company index was nearly three times that for utility operating companies. In other words, the holding company stocks were "kited" to a level three times as high as the level of stocks upon which any real value that they possessed must necessarily rest.

This is the period when legislation should have been enacted for the protection of innocent investors and for the welfare and stability of the industry itself. But during all this long period, in spite of the efforts of men like the late Senator Thomas J. Walsh and Senator Norris, nothing was done. The way was left clear for the promoters and speculators, without regard to the rights and interests of either consumers or investors. Those who were in power during this period must bear the responsibility for the loss, the suffering and the destruction of confidence that inevitably followed the breakdown of this tottering financial structure.

When the crash came in 1929, the market values of all classes of stocks fell, but I wish to direct your par-

ticular attention to the fact that the indexes for both utility holding company and operating company stocks did not fall as low at any time, in comparison with the 1920 basing point, as the indexes for industrial or railroad stocks. The lowest point reached by the utility operating company index was 106 and for the holding company index 86, both of which were considerably above the low averages for the year 1932 of 71 for industrials and 37 for railroads.

The Public Utility Act of 1935 was introduced on February 6, 1935. Now observe closely what happened. During the first two months, February and March 1935, when there had been no opportunity to study the provisions of the bill, the index for holding company stocks dropped from 104 in January to a low of 86 in March. But, very significantly, the operating company index actually rose during this same period from 106 to 113, while the industrial index was declining from 114 to 111 and railroad index was falling from 47 to 39. The operating company index actually advanced against the market, indicating apparently that investors had decided that this legislation was for the benefit of those who had their money in the operating companies. And this index for utility operating stocks continued to climb steadily thruout the consideration of the legislation and after, reaching a high point of 166.5 in February 1936.

The propaganda against the Public Utility Act, as constituting a "death sentence" for all holding companies, continued with increasing vigor thruout the summer of 1935, but the trend of the market shows clearly that, after they had had an opportunity to study the actual provisions of the proposed law, investors disregarded this propaganda and bought at rapidly advancing prices. From the low point of 86 in March, 1935, the holding company index rose steadily to 107 in April, 118 in May, 126 in June, 132 in July, and to 163 in August when the act was passed and signed by the President. After its passage the advance continued and in May

1936 the holding company index stood at 190, approximately the level it had reached in 1923, when Warren G. Harding was President and no legislation affecting the utilities had even been thought of.

Perhaps we can make the actual status of the genuine investor in utility securities clearer by a simple illustration. Let us assume, for example, that you bought 100 shares of Public Service of New Jersey common on January 2, 1925, when the Coolidge boom had already been under way for several months. They would have cost at the high for that day 69⅜. Last Saturday, July, 11, 1936, these same shares closed at 46⅝. That looks a bit bad. But wait a minute! In 1926 this Public Service stock was split 3 for 1 so that today you would have 300 shares, making the true market value of each original share 139⅞ or nearly twice what you would have paid for them. Not so bad!

The point may be made that while Public Service of New Jersey fought the Public Utility Act of 1935 as vigorously as any company, it is probably not subject to the holding company provisions of that act. Let us, therefore, examine the situation of the investor in United Gas Improvement common—the holding company that controls 28.5 per cent of the stock of Public Service of New Jersey. If you had bought 100 shares of United Gas Improvement during the first week of January, 1925, you would have paid at the average for that week $9,187.50. In November, 1926, you would have received a stock dividend of 25 per cent, giving you 125 shares. Then in 1929 each of these shares was split 5 for 1, making 625 shares, and in addition you would have received as a bonus 15 and a fraction shares of $5 preferred. At the close of the market on Saturday, July 11, 1936, your 625 shares of United Gas Improvement would have been worth $10,468,75 and your bonus preferred $1,687.50 or a total of $12,155.25 for what you paid $9,187.50 for in 1925. This is a profit of

nearly $3,000 over the price that would have been paid for this holding company stock back in the good old days of the Coolidge boom.

Having examined the course and present status of the utility holding company and operating company common stocks, let us see what genuinely conservative people think about the future of the utility industry as affected by the power policies of the present administration. I know of no better criterion than the opinion of the trust officers of the old line life insurance companies. In 1934, before the Public Utility Act of 1935 had even been introduced, these companies bought $129,065,248 in public utility bonds. In 1935, when that act was under consideration and it was charged that it meant destruction to the industry, these insurance companies bought public utility bonds in the amount of $506,364,-360. During the first 5 months of 1936, after the passage of the act, they bought $248,011,450, or at the rate of some $600,000,000 for the year.

Does anyone seriously believe that the trust officers of these insurance companies, who have the best sources of financial information, who are concerned not only for the present but for the future, and who are unswayed either by political leanings or utility propaganda, would have invested so heavily in this industry if they did not believe that the money actually invested in public utilities, which is represented largely by the bonds and preferred stock, will not be adversely affected by the policies which have been initiated by this administration?

In conclusion, let me ask you a question. When do you think the public utilities of the United States were really in the soundest and stablest position? Was it back in the "good old days" when there was no regulation except that of the state commissions, which was continually thwarted by litigation in the federal courts; when there was no national control or effective publicity for security issues and the Insulls, Foshays and other

promoters were free to take your money in exchange for engraved paper; when the people of the United States were paying more than twice as much per kilowatt hour for residential service as the people of Canada; and when the absolute control of this great industry was being rapidly concentrated in the hands of a few super-holding companies and so-called investment trusts? Or is the industry really in sounder shape today when its security issues are subject to registration and control; when cooperative federal and state regulation has been established for holding companies and interstate operating companies; when future mergers and consolidations must run the gauntlet of official approval; and when rates have been or are being reduced to levels that promote constantly increasing use of electric energy by all classes of consumers?

If you choose the former—to go back to the good old Insull-Foshay days—there is only one answer. Barnum was a thousand times right!

IS TVA REALLY HURTING PRIVATE UTILITIES?[3]

The cost of *generating* electricity forms only a small part of the total cost to the residential consumer or the farmer, ranging usually from about one sixth to one tenth. TVA prices for electricity *at wholesale* vary only a mill or two per kilowatt hour (in some cases less than a mill) from the wholesale rates generally charged in this area. A mill, or even several mills' difference in the wholesale price affects the rate charged the home user very little. For example, if the TVA wholesale rate is a mill a kilowatt hour lower than in your community, based on the national average usage, this difference would amount to about 5½ cents a month, and even a 2-mill

[3] From article by David E. Lilienthal, Director Tennessee Valley Authority. *Public Utilities Fortnightly.* 17:744-50. June 4, 1936.

difference will only amount to about 11 cents a month to the householder.

In the contracts with municipalities for sale of bulk power not only the wholesale rate but also the rates the city will charge the ultimate consumer are agreed upon by the Authority and the city. It is those rates to the consumer that are usually referred to as TVA rates. And it is those rates which show such a marked disparity from rates usually charged, a disparity far in excess of any mill or two difference in wholesale rates.

This is not the place for a lengthy presentation of the theory of price and cost in the field of electricity. But one principle of pricing must be clearly recognized, or the entire significance of the TVA electricity program is obscured: *the rate charged for electricity,* within wide limits, *determines the cost.* No analysis of rates for domestic electricity is worth serious consideration unless it is based on this principle.

By a happy coincidence, the social objective of wide utilization of electricity, and the business principle I have just stated, work in harmony. In a wide field of mass production, as everyone knows, increased demand results in less cost per unit. Limited production means high costs; wide consumption produces low costs. But how get wide use and in turn low costs? The answer TVA submits is: Low rates; *genuinely* low rates. Low rates will bring increased use, and increased use results in low costs. There are limits but they are far off.

There is no dispute among utility managers about the principle; putting it into effect is another story.

Some critics say: We want to charge low rates, but we can't lower rates further until we can cut our costs, and we can't cut our costs unless people buy more electricity. The TVA rates would probably work if people used twice as much electricity as they do, but until they do, such rates are impossible.

And with a few exceptions that is the answer, too, of the rate regulatory commission. With an eye fixed by law on present costs based on present consumption of electricity, the commission says: We can't order genuinely-low rates because the lower rates would be below the cost of distribution. When people use more electricity, such rates would be feasible.

In other words, in the regulation of rates under the fair value theory, plainly the cart is before the horse.

How does the consumer look at the matter? Usually he says: You cut prices for electricity and *then* I will use more.

The situation reminds you of the famous western statute designed to prevent accidents at railroad crossings, which provided that whenever two trains approach each other at a crossing *neither* shall pass until the other has gone.

The cities and associations which have adopted the TVA rates smashed the vicious circle by drastically reducing rates—about 50 per cent in most cases. Within twenty-two months after placing in effect these low rates (a reduction of about 50 per cent) total residential consumption of electricity in Tupelo, Mississippi, increased 267 per cent. In Athens, Alabama, after eighteen months there was an increase of 272 per cent, and in the same period in two county-wide associations in Alcorn and Pontotoc counties, in Mississippi, increases of 200 per cent and 293 per cent, respectively. In New Albany, Mississippi in twelve months, there was an increase of 114 per cent, and in Pulaski, Tennessee, after only eleven months' operation, an increase of 128 per cent, while in Dayton, Tennessee, the increase was 88 per cent in ten months.

Another reflection of the increase in usage following drastic rate reductions is in the change in the amount of electricity used by the average householder.

Under high rates, the average domestic user in Tupelo used 49 kilowatt hours a month, whereas after less than two years the average had reached 130 kilowatt hours per month, or considerably more than twice the national average of 55 kilowatt hours.

Athens, Alabama, in an even shorter period, had an average use of 123 kilowatt hours per month. Similar results have been reached in other communities, using TVA rates, allowance being made for the shorter period during which the reduced rates have been in effect.

The experience of the private utilities in the TVA area under reduced rates I shall recount at a later point: the results in terms of increased use, compared with the national average experience, demonstrate the same principle.

This is neither academic theory nor swivel-chair prophecy. This principle is being put to the test of application. It is under trial by the utility companies in the valley area. It is being tested under a wide variety of conditions by all of the municipalities purchasing TVA power at wholesale. It is working out to such a degree that the southeastern states are now on their way to becoming the greatest users of electricity in the country.

And now to my second point: what is the effect of the TVA upon private utilities in the valley region?

Out of the welter of charges and counter-charges involving the Tennessee Valley Authority program, there arises one central argument against this national undertaking: that in so far as it participates in making electricity available, TVA is destructive of the private utilities. It is destructive, so the argument runs, because it will undermine investments of private individuals in public utility properties in the valley area by disrupting first, and destroying eventually, the businesses upon which those investments depend.

This is not a new contention. It was put forth vigorously year after year as the Congress debated final dis-

position or use of the national wartime investment in properties at Muscle Shoals. It was urged strongly as an argument against the enactment of all previous Muscle Shoal bills, as well as against the enactment of the Tennessee Valley Authority Act of 1933. I need not recall to you the black strokes in which the picture was painted then and is painted now by opponents of this national enterprise.

There is a difference, nevertheless, between the use of this particular indictment in 1936 and its use as prophecy in 1927, 1930 and 1933. The difference is this: we now have the results of some three years of actual operations of the TVA program. To this degree then, we are no longer speaking in terms of a hypothetical situation, or assessing the language of gloomy prophets.

Let us see what the result, in fact, has been.

Let me say, first of all, the record shows that far from being destroyed the private public utilities operating in the valley area in general are *enjoying the best business* in their history. To nail this statement down, let me recite the experience of three of these companies: The Tennessee Electric Power Company, the Alabama Power Company, and the Georgia Power Company, all subsidiary operating units of the Commonwealth and Southern System. If the TVA program were to undermine and demoralize any utilities companies in the valley, these three would certainly be among the first to be adversely affected.

First, let us see what the experience of these three companies has been as to the use of electricity by their customers. According to the *Electrical World's* fifth semi-annual survey of 103 utilities companies, for the full year of 1935 these three TVA area companies are now *leading all other companies east of the Rockies* in average residential consumption of electricity for 1935. The Georgia Company, with an average annual domestic kilowatt hour consumption of 1,039, is first; the Alabama

Company, with 997 kilowatt hours, is second; and the Tennessee Company, with 966 kilowatt hours, in third. Since the first of 1936 the Alabama and Tennessee companies have passed the 1,000 mark. Five of the six leading companies in the United States in increased domestic use for 1935 are located in the Southeast!

Ranked on the basis of increase in average domestic use for 1935 over 1934, the Tennessee Company, for the second consecutive year, *leads the entire country* with an average domestic gain of 192 kilowatt hours; the Georgia Company is fifth, with a gain of 151 kilowatt hours; and the Alabama Company is sixth, with a gain of 126 kilowatt hours. The national average for 1935 was 673 kilowatt hours per customer. The Tennessee Company, since it cut its rates by agreement with TVA in January, 1934, gained more than half as much as the *total* national average usage: a *gain* in the two years of these reduced rates of 355 kilowatt hours per customer. If you are a manager or investor in a public utility wouldn't you like to be "destroyed" to the tune of such unprecendented increases in your business?

These high averages for domestic consumption and the record-breaking gains of 1935 over 1934 are all the more significant when it is recalled that the same companies made equally sensational gains in 1934. Indeed the progress of one of these companies, the Tennessee Electric Power Company, was so remarkable that the Edison Electric Institute, in June, 1935, selected the Tennessee Company as the outstanding company in the country for 1934, because it had established, I quote from the award, "one of the most, if not the most remarkable sales increase in residential, commercial, and industrial power in the history of the electrical industry."

Financially the private utilities in the TVA area are prospering. Gross and net income are both on the increase. Not one company, so far as I know, has failed to cover interest and preferred dividends by a safe margin

despite considerable doubt of the validity of some capital structures.

The Tennessee Company increased its gross earnings 8.1 per cent, coming up from $12,409,568 to $13,409,824. The net income increased 8.8 per cent, from $1,889,156 to $2,056,020. The balance available for surplus and common of this company showed even a more remarkable increase, coming up from $337,370 in 1934 to $505,140 in 1935, for an increase of 49.7 per cent.

The Alabama Company increased its gross earnings from $15,487,516 to $16,794,483, or a gain of 8.4 per cent. The net income, before preferred dividends, increased 9.5 per cent from $2,760,269 in 1934 to $3,023,384 in 1935. Here again the increase in the balance available for surplus and common showed a much more marked increase, coming up 62.9 per cent in 1935 over 1934, or a gain from $418,095 to $681,232.

Altho gross earnings of the Georgia Company showed the smallest percentage increase, this company enjoyed the greatest increase in net income before preferred dividends and in balance for surplus and common. The gross earnings of the company were $22,122,957 in 1934 as compared with $23,698,272 in 1935, an increase of 7.1 per cent. The net income, however, increased 16 per cent, coming up from $3,898,299 in 1934 to $4,522,565 in 1935. The balance available for surplus and common showed a remarkable increase of 65.9 per cent coming up from $947,813 in 1934 to $1,572,106 in 1935.

In the face of these figures, the people who have been telling you hair-raising tales about the TVA ogre must feel pretty silly. They remind one of the White Queen in *Through the Looking Glass.* You will remember that Alice was talking to the White Queen when the Queen began screaming: "Oh, oh, oh!" shaking her hand about as if she wanted to shake it off. "My finger's bleeding! Oh, oh, oh, oh!" . . . "What *is* the matter?" Alice said, as soon as there was a chance of making herself heard.

"Have you pricked your finger?" "I haven't pricked it *yet*," the Queen said, "but I soon shall—oh, oh, oh!"

This, then, is the record after three years of the Tennessee Valley Authority. There are no final answers, of course, but certain trends are appearing which can be recognized and appraised by anyone who wishes to apply to these questions an objective point of view. And in the long run, the nation at large will judge by the record as it is built up from this point forward.

BREAKDOWN OF REGULATION [4]

The whole course of rate procedure is admirably illustrated by the famous or notorious New York telephone case which recently came to an end in the Supreme Court after continuous litigation since 1922. Almost on the date of the decision, a new action was started, with all the old time difficulties in the way of obtaining reasonable rates.

While theoretically the system leads to difficulties for both sides, actually these travesties of procedure are limited mostly to the companies. In the ordinary rate case the company is represented by skilled and experienced counsel who has a retinue of engineers, accountants and special valuation experts trained to elaborate, befog, and impose upon the commission the carefully developed scheme of claims. The witnesses have had long experience in testifying and in meeting points on cross-examination. The company, moreover, does not spare costs in preparing and presenting the case, for it includes these costs in operating expenses paid by the public in the rates charged for service. The New York Telephone Company, it was testified, spent

[4] From pamphlet "America's Struggle for Electric Power," by John Bauer, Ph. D. p. 24-7. League for Industrial Democracy. 112 E. 19th St. New York. 1935.

about $6,000,000 on a rate case which lasted nearly 10 years, and this expense was charged to its customers. Similarly the New York Edison case, involving the electric rates in New York City, continued for about 7 years at a cost to electric customers of perhaps $5,000,000, and was never concluded.

On the public side the situation is very different. First of all, the public counsel is usually inexperienced in rate cases. Next, he is severely limited in funds available for the preparation of the case. Consequently he cannot get competent or sufficient experts to collect, analyze, and present the facts properly from the public standpoint. To a large extent he proceeds with futile examinations and clutters up the record with harangues and immaterialities rather than evidence. Only in rare instances has the public side been in any sense competently and adequately represented. Where substantial sums have been spent, they have usually been to a considerable extent wasted for lack of a clear understanding of what is involved and needed.

The sad commentary is that the public pays lavishly for skillful and over-complete presentation of the company's side, and then scimps and fails to present competently and adequately its own side. Rate cases can be handled for the public with much more competence and effectiveness, and with economy, if there is clear understanding of what is involved, and if there is definite planning. The cost of efficient preparation is not prohibitive under sensible arrangements.

Another aspect of regulatory travesty is the conversion of the commission from a body representative of the public to a court which receives evidence and makes its decision as between the company and the public upon the judicial record in the case. The commission itself was originally intended to represent the public; it was never expected to be a court. Its direct representative function, however, has long been sloughed off. Prac-

tically every commission today regards itself primarily as a judicial body and proceeds accordingly. The responsibility of representing the public has devolved either upon municipal officials or upon consumer or other public groups. The alternative representatives are hardly ever able to represent the consumers adequately on account of lack of experience and funds. Furthermore, the public-at-large mistakenly assumes that the commission looks after consumers, not realizing the subtle transformation that has taken place.

The plain fact is that the public side in rate cases has gone largely by default. There are, of course, instances where the commission on its own account does make investigations from the public standpoint. For the most part, however, these studies are limited and are largely frustrated because of the conflicting function of judicial decision; there is more pretence than actual representation. No official body can sit as a court to decide between two sides, and at the same time serve effectively as the legal representative of one of the parties. Here are basically conflicting duties which cannot be satisfactorily carried out simultaneously as a regular matter of policy. The successful instances are exceptions which do not vitiate the age-proven principle.

Further, with the passage of years, new duties have been steadily imposed upon the commissions by the legislatures without corresponding financial provisions to defray the cost of the work. During the depression, the government economy wave has engulfed the commissions at a time when prompt rate adjustments were particularly necessary. Practically no commission has been in position to do the necessary work even if it had not assumed the judicial role and had not virtually renounced its direct public responsibility. There is an old saying that bricks can't be made without straw. That applies to the work of public control as well as to physical construction.

Regulatory commissions have also lacked suitable control over basic organization and operation.

The scope of regulation has been largely limited to rates, standards of service, accounting, reports, records, and security issues, and is prescribed by statute. No commission can do what has not been delegated to it by the legislature. But there is no specific limitation upon the power of legislation as to what may be included under public control if warranted by public needs and welfare.

Under the existing statutes, the commissions have no direct power over salaries and wages paid, over the number of positions needed for efficient management, over prices paid for materials and properties purchased, or over contracts involved in the construction, maintenance and operation of the properties. All these have been regarded as matters of management and have not been placed under direct commission control,—but the reasonableness of costs incurred may be considered in the fixing of rates.

During recent years in some instances regulation has been haltingly extended over such managerial activities. New restrictions have been directed especially to contracts and dealings between affiliated companies. For the most part, however, they applied only to publicity and to the determination of reasonable cost.

Even if there were definite standards and systematic administrative provisions for rate making, the effectiveness of public control would be greatly reduced by lack of public direction in management. Every vital step in consolidation, organization, financing and management should be determined on the basis of public requirements rather than private advantage. Every important contract or decision that involves cost and efficiency should be subject to public criteria, not solely to what will yield the most profit.

While the routine of construction, maintenance and operation must necessarily be carried on thru regular managerial agencies, the controlling directive force should follow public patterns rather than aim at private gain. Regulation has left the companies free in the first instance to do as they pleased, and then has attempted to interpose public standards with respect to rates and other more or less important matters. The regulatory process should point continuously to public objectives and should never permit the underlying material distortions which complicate and largely frustrate the efforts of regulation.

HOW TO CONTROL PUBLIC UTILITIES [5]

There is no other field of public interest in which there is so complete, effective, and continuously operating machinery for the dissemination of misinformation and silencing of opposition as in the domain of the public utilities. Despite the revelations of the Federal Trade Commission's investigation, the public mind on many crucial points is ill-informed and confused. This is noticeably true in regard to the question of federal control versus state regulation. That there are honest advocates of state regulation, particularly among those who hold to an unquestioning states'-rights doctrine, it would be folly to deny. But what is more to the point is that this policy is advocated also by all those whose purpose it is to defeat genuine efforts at adequate regulation, and this precisely because they recognize the demonstrated inability of the individual states to cope with the problem.

A glance at the scope of the jurisdiction of state regulatory commissions over privately owned electric light and power companies will disclose the chaotic con-

[5] By Guido H. Marx, Stanford University. *Nation.* 132:348-50. April 1931.

dition. One state, Delaware, has no commission. State regulation cannot apply to the District of Columbia, the territories, or what we politely term our dependencies. According to Mosher's standard book on *Electric Utilities,* twenty-two of the state commissions have no jurisdiction over capitalization and issue of securities; seven have none over valuation for rate-making; seven, none over rates and rate schedules; fourteen, none over accounting; eleven, none over annual reports; seven, none over service; and so it goes. There is no need of elaborating the confusion. The possibility of getting uniform state codes of law and procedure, and in addition effective ones, may be set down as zero. Nothing in the past history of regulatory legislation justifies belief that those who profit by this situation of confusion and twilight zones would, without a bitter, prolonged, and adroit fight, permit the adoption of any measures to rectify it.

But even assuming that uniformly adequate powers were won, state regulatory bodies would still have no jurisdiction over companies engaged in interstate transmission (a matter of continually increasing importance in these days of developing super-power systems), and no effective control over those with financial affiliations (operating, management, or holding corporations) of an interstate or extra-state character. In brief, there would be left to them for exercise of their regulative powers only strictly local enterprises. It does not take a vivid imagination to picture how many of these there would be in a field where they are already a disappearing factor.

We have also a whole series of other elements tending to limit or defeat the protection of the rights and interests of the general public. As a rule the state commissions have inadequate funds and staffs to make the necessary and thoro investigations of accounts and physical properties. This may be one of the reasons for a growing tendency on their part to refuse to initiate

proceedings and to confine themselves to an exercise of judicial functions, thus helping to bring about the very condition they were created to correct and placing the effort and cost of extensive case preparation and presentation on private individuals or municipalities. Court decisions—particularly in the matter of valuations based on reproducing cost, new, less depreciation—in a world of continuing fluctuation of prices have also set the stage for an endless series of entanglements.

Next we have a very great likelihood of the control of these minor commissioners by the very utilities they are supposed to regulate, and this whether they hold office by appointment or by election. The salaries in all but a very few cases, as New York and Pennsylvania, are not such as to attract outstanding men, nor can the large group of appointees be subjected to such public scrutiny as might be given to the few members of a single federal body. There have been, and are, many able and devoted men serving at considerable sacrifice on these state commissions, and the present writer would not have these paragraphs reflect in any manner upon them. Some of the commissions have oustanding records, but even a state which has been able to boast of an Eshelman and a Seavey has had others less conspicuous. It has not been outside the range of experience in some states that governors have felt obligated to appoint commissioners at the behest of utilities in return for financial campaign deficits. Separate local bodies of limited jurisdiction, staff, and financial resources are more easily dealt with by great national organizations. In brief, the advocates of state regulation are not unacquainted with the merits of separating your faggots.

The policies of the national organization of state utility commissioners have scarcely been such as to inspire one with great respect for their zeal for the general public interest. To quote Mosher: "It cannot

be denied that the association has great potential value, but to date its social usefulness has been limited." "In reading the annual reports one is struck with the lack of discernment in passing judgment on defects and limitations of the existing methods of control." What living interest in the public welfare is to be expected from an organization which has no keener sense of the proprieties than to accept financial support, according to the Federal Trade Commission hearings, from the National Electric Light Association, one of the chief propaganda instruments of the utilities to be regulated? (In passing, it might be stated that the national societies of both the electrical and the mechanical engineers appear to be dominated by large corporate and utility groups and not to be as sensitive to the interests of their membership at large as could be wished.

Even such a brief summary as the foregoing, which could be indefinitely expanded and documented, shows conclusively why those, who do *not* want adequate regulation are all for "state regulation."

There is nothing of more widespread importance to a modern industrial nation than energy, commonly spoken of as power, whether it be derived from coal, oil, gas, water, oil shale, or peat. Whoever controls the energy resources, economically controls the nation. The problem of energy supply in our country is rapidly becoming one of interlocking super-power systems using both water and fuel sources. This is a national problem which can and must be handled nationally as a unified problem. Matters of valuation and rate regulation, vitally important to general welfare as they are, are only some of its elements. A national planning system must be devised for national resources irrespective of artificial political barriers such as state lines. But the first step would be to make all physically or financially interlocked groups directly and strictly amenable to federal control, and to broaden the powers and enlarge

the staff of the Federal Power Commission to enable it to handle this large task as well as those already placed on its shoulders by present laws. The utmost vigilance should be exercised in scrutinizing the men nominated to perform so important a function, to insure that they be men of capacity and social vision, dominated by zeal for the general welfare, and absolutely free from all purpose to sabotage the laws they are set to enforce. "Put all your eggs in one basket," said Andrew Carnegie, *"and watch the basket."* Advocates of states' rights, sincere and insincere alike, can be counted upon to fight this plan to the last ditch. The plan, if adopted, would work only if there were on the part of the utilities an honest and sincere acceptance of effective regulation. Otherwise it would work until the utilities, twenty-four hours on the job each day, either captured the regulators, wore down their morale, or adroitly devised other means of beating the game. From our national experience with anti-trust legislation, the latter course is what is more reasonably to be expected, and this for two reasons. The first is that the temptations of the opportunities of exploitation that lie in the domain of private ownership of natural monopolies are too strong for men of business enterprise to resist. The second may be stated in the form of a question: Can one man *really* regulate another man's business? Such a question, to be sure, completely overlooks the fact that the public-utility business is really a partnership between capital and the public—a partnership to which the public makes contributions of the most essential and valuable character, in return for which it demands, with entire justice, complete knowledge of all the facts of the business together with full protection of its interests. In many cases it may be said with practical truth that it furnishes the capital as well. But these are facts which the so-called private owners wish to have forgotten, and it is probably unkind to mention them.

Federal regulation and national planning are undoubtedly the next steps, but I have no belief that they offer anything like a stable solution. Rather I would say: The right of eminent domain and the taxing power, to which it is closely related, are both distinctive features of government. Human history has taught us that these powers can never safely be alienated from the state and transferred into private hands. The farming-out of taxes, direct or disguised, has always led to oppression and disaster.

There are certain enterprises which by their very nature require the right of eminent domain, using that term in a broad sense—enterprises such as highways, bridges, railways, and those whose systems of pipes, cables, or wires require continuity over broad areas and, in especial, right of way under, in, or over the publicly owned roadways. All such enterprises require a concession of some of the sovereign functions of government, many of them necessarily exclusive and monopolistic. Such concessions once granted, call them franchises or what you will, are an alienation of sovereignty and carry with them indirectly but inevitably the taxing power. This is a power which should never pass out of the hands of government—even with the specious but deceptive check of regulation. All those enterprises which, dealing with essentials of modern existence, require the more or less exclusive use of the public property for their operation, and are thereby naturally sovereign in character, should be publicly owned and operated. And this because all other means of economic control for the general welfare exercised by legislatures, courts, or commissions have proved inadequate to protect the public at large—in brief the state sovereign—against the evasions, exactions, and anti-social actions of highly organized, controlling groups operating under the dominant motive of private profit.

WASHINGTON'S PUBLIC OWNERSHIP DISTRICT POWER LAW [6]

The Washington State Grange was the organization primarily responsible for the passage of the bill. The Grange, however, was assisted by the State Federation of Labor, the Railway Brotherhoods, the Farmers Union, the Farm Bureau, the Women's Legislative Council, the Farmers Mutual Electric Association, and the Federated Improvement and Civic clubs, all of which lined up strongly for the bill.

The privately-owned electric utilities thruout the state were strongly opposed, of course, to the bill and strenuous efforts were made to defeat it. The Puget Sound Power and Light Company led the opposition in western Washington, and was ably seconded by the Washington Water Power Company in eastern Washington. The other privately-owned power companies, the Pacific Power and Light Company, the Northwestern Electric Company, the Gray's Harbor Railway and Light Company, the Cheney Light and Power Company, the Pacific Northwest Public Service Company, and the Stevens County Power and Light Company were active also in their respective territories in trying to defeat the bill.

The executive committee entrusted with the campaign for the bill had a campaign fund of less than $5,000, raised by popular subscription. Due to the shortage of funds no paid newspaper publicity was attempted. In the case of free newspaper publicity the proponents of the bill suffered, as such free publicity, from the standpoint of quantity, greatly favored the opponents of the bill. As the privately-owned utilities resorted to the extensive use of paid newspaper advertisments in addition to free publicity, it may readily be perceived

[6] From article by James K. Hall, University of Washington. *National Municipal Review.* 20:342-8. June, 1931.

that the great mass of newspaper publicity to which the people of the state were subjected was in opposition to the bill.

The most effective argument advanced by the privately-owned utilities and allied interests in opposition to the District Power bill was that taxes would be increased: first, by the removal of the property of private utilities thru purchase, or condemnation and purchase, by the public utility districts; and second, by the creation of a new taxing body, which means increased taxes *per se*. It was alleged also that the public utility district commissions had excessive power to issue bonds, incur indebtedness, and levy taxes without the consent of the people, and that private initiative and investment in the utility field would be destroyed to the detriment of the common welfare. The sacredness of the institution of private property and its manifold benefits to society were repeatedly emphasized. The private utilities stressed the point of being heavy taxpayers, large employers of labor, and the cause of millions of dollars of outside capital being brought into the state annually, and subsequently expended within the state. Passage of the District Power bill accordingly would mean that the private utilities would no longer have the opportunity of paying the heavy taxes, of giving steady employment to thousands of persons, and of building up the state by bringing in capital from the outside. Eastern Washington was told that Seattle and Tacoma were back of the District Power bill in order that they might get control of power resources, sites, and lines in that portion of the state at the expense of residents of eastern Washington. Conversely, western Washington, particularly Seattle and Tacoma, was assured that should the District Power bill pass, public utility districts created under the authority of the bill could, and possibly would, condemn and purchase the important hydro-electric power resources and water rights of the Seattle and Tacoma municipal systems.

The proponents of the bill stated that the District Power bill was simply an enabling act which in and of itself levied no taxes nor created bond issues; that it was simply a grant of authority to the rural districts to enjoy the same privileges now enjoyed by cities should they so desire. It was also asserted that rural residents should have the same right to own and to operate electric light and power systems in order to secure lower rates as city residents. Rate differentials for electric light and power favoring city as against rural consumers were made the subject of considerable emphasis. The opportunity for, and existence of municipal ownership of utilities by cities were cited as reasons for the lower urban rates. Another argument of weight was that the power resources of the state are a public heritage and should be reserved for the people, with their use devoted primarily to service and not to profits. It was alleged that should the very extensive water power resources of Washington be used to develop cheap power, which could be done in the absence of private utility over-capitalization and over-developed profit motives, industries requiring electric power would establish themselves in the state, the electrification of farms would be promoted, and the public at large, and the rural districts in particular would gain greatly. The evils of private utility light and power monopoly in rural areas, and the desirability of having a "club" to hold over the power companies were stressed. Potential and actual competition as the only effective regulator and guarantee of reasonable rates for electric service was advanced as a telling agrument.

The chief reasons that may be assigned in accounting for the passage of the District Power bill appear to be: first, the hostile attitude of the people of Washington toward monopolies; second, the rather successful refutation of the arguments advanced by the private utilities against the bill; third, the somewhat excessive activity displayed by the private power companies to defeat the

bill, which aroused considerable popular suspicion; and, fourth, the apparently successful operation of publicly-owned and operated power systems in the cities.

In answer to the argument of the power companies that taxes would be increased by removal of the property of private utilities from the tax rolls thru condemnation and purchase, the proponents of the bill pointed out that the private power companies pay only 1½ per cent of the state taxes, while municipally-owned plants in Washington are paying from 7 per cent to 50 per cent of the total taxes of their cities or towns. It was also alleged that while all the private power and light companies claimed a total value in the state rate-making department of $153,295,958.40, yet these companies paid taxes upon an assessed value of only $16,781,000, and a tax of $1,174,678.29. With a book value of $85,986,-311.74, the Puget Sound Power and Light Company in 1929 paid taxes of less than $550,000 on its power and light property to the state and to its political subdivisions. *The Grange News,* in asserting that the power companies were tax dodgers, declared that "by legislative and regulatory maneuvering and control has already wiped off the tax rolls nine tenths of all private power property."

Furthermore, it was said that the power companies were merely tax collectors, and, assuming that all the private power company properties were eliminated from the tax rolls, the effect would be negligible in that one paying $50 a year in taxes would then pay about 75 cents more, and one paying $100 annually in taxes would pay about $1.50 more. Assuming this slight increase in direct tax burden, the rural consumers' gain in securing light and power at around two cents or less per kilowatt hour would greatly outweigh any tax considerations. The marked discrepancy between the power companies' rate bases, or valuations for rate purposes, and

their valuations for tax purposes was the subject of considerable public criticism.

As a conclusive answer to the tax arguments of the power companies, the supporters of the District Power bill stated that the bill itself created no new taxing bodies, removed no private power company property from the tax rolls, would stimulate rather than destroy private initiative and efficiency by making possible the existence of competition in rural areas, and would in no way impair the sacredness of private property, as the fair value of such properties would always be paid even in the event of condemnation and purchase by public utility districts.

With the approach of the general election which was to decide the District Power bill issue, the power companies became increasingly active. Many who were lukewarm in their adherence to the bill reasoned, *prima facie,* that the benefits to rural areas from the passage of the bill were probably in correspondence to the opposition—hence the stronger the opposition the greater must be the benefits that the bill would confer, and as a result became ardent supporters. The more or less under-cover methods used by the power companies to develop public opposition to the bill also had a disastrous effect, and apparently did more harm than good. Power company employees were very active in developing opposition to the bill by personal contacts and by distribution of literature. It was the belief of certain interested observers that the private power companies, by their violent and aggressive opposition to the bill, had helped in their own defeat.

The continued representation by the leading proponents of the District Power bill that public ownership and operation of electrical utilities in Washington has been an outstanding success undoubtedly influenced many to favor the bill. The advantages of lower rates and at the same time utility profits for the general tax

fund, or the maintenance of other city functions and departments, or the retirement of the system's outstanding indebtedness were stressed as accruing to those communities which have municipal light and power systems. A salutary effect on the private power companies of the District Power bill was pointed out even prior to the passage of the bill by attributing to it, whether incorrectly or not, the rate reductions made by the power companies at that time. If, the bill was having such a wholesome effect on light and power rates even prior to its passage, would it not secure still more substantial advantages in the future if it were passed? That this argument was effective in developing public opinion favorable to the bill is hardly open to question.

Support for the District Power bill in the election came principally from the rural districts which returned favorable majorities in most instances. Twenty-seven of the thirty-nine counties in Washington polled favorable majorities for the bill. Opposition centered in the cities. Seattle, which owns the largest municipal light and power plant in the state, voted against the bill. The reasons for this somewhat unexpected result apparently lie in the strong support of the Puget Sound Power and Light Company by business and financial interests in the city, the rather unsympathetic attitude of Seattle citizens toward rural problems, an unwillingness to give rural districts any opportunity to shift or to increase taxes, the presence of a large number of power company stockholders and employees in Seattle, and the greater effectiveness of the power company attack on the bill in the cities as compared with the rural areas. Apparently the power companies tended to concentrate their efforts to carrying the cities and the more or less neutral voters, feeling that relatively little could be done in the rural districts against a bill so obviously to the advantage of the rural residents.

MUNICIPAL PLANTS CAN COMPETE [7]

It is a well-recognized fact that a duplication of facilities is an economic loss. This applies, perhaps, more to the utility business than to any other line of business. Notwithstanding this fact, there are a large number of competitive light and power installations. In some cases more than one private company renders service in American cities, and we have a few instances where as many as three or four concerns supply electricity to the same community.

In reviewing the statistics of municipally owned plants compiled from the United States Census reports, the records show 1,802 municipal systems in 1932, and in 1934 there were 1,875 municipal lighting systems. A check and analysis of these show that approximately one-fifth of the municipal plants are competing with private utility installations. Some of the largest municipal plants in the United States are competitive, and include those in Los Angeles, Cleveland, Columbus, Seattle and Springfield, Illinois. Other large cities, such as Detroit and Chicago, have a partial competitive business; the municipal plant furnishes electricity for municipal requirements only. There are, however, a large number of municipal lighting plants that are strictly competitive for residential, commercial and power requirements.

I doubt if there is a city in the United States that has without reluctance constructed a competitive municipal plant. The municipal plants thruout the country have been constructed as the only permanent means of procuring for the municipalities lower light and power rates and also relieving, in whole or in part, the burdens of taxation.

In my own engineering experience of 28 years in behalf of municipal projects, I cannot recall a single

[7] By R. E. McDonnell, Burns & McDonnell Engineering Company, Kansas City, Missouri. *American City*. 50:69-70. May, 1935.

instance where a long, tedious and determined effort was not made first either to acquire the utilities or to procure a seasonable rate reduction. Failing in this, the only recourse left to the municipalities has been the construction of their own independent municipal plants. The attitude of the companies has been, universally, to resist any efforts on the part of the municipality to purchase. Thru court procedure, resistance has always been strongly against condemnation. It has been a long-drawn-out procedure in behalf of municipalities to procure ownership of the utilities. The secret of the utility companies' wanting to hold on to their properties has been the enormous profits they have been able to reap in the utility service. They have been unwilling to grant the municipalities the privilege of enjoying the same profits that the private monopolies delegate to themselves.

In resisting rate reductions or municipal ownership, the companies would in one breath protest that they were losing money or doing business on a close margin, and in the next breath would use every argument and recourse possible to hang on to this so-called "losing investment." The outcome of these competitive installations has been predominantly in favor of the municipalities. The companies usually cling longer to the industrial and power business, while the municipalities' gain has been rapid in the residential and domestic service.

Private companies, in their efforts to dissuade the public from establishing their own municipal plants, have frequently used the arguments that the city cannot hope to make the plant financially successful, and the ruinous competition will be damaging to both the company and the city. Records of the success of municipal competitive plants disprove these statements.

One argument invariably used by private power companies is that they will retain the majority of their business for years, and that the city will be paying its bonds

and interest on a losing venture. It is therefore of interest to observe how short a period has been required for a municipal plant to establish itself successfully.

If a vote of the public has been two to one in favor of public ownership, then the consumers of the municipal plant should be in the same ratio. If a city carried its bond issue for a municipal plant by a ten-to-one vote, it would be somewhat of an indication that ten customers would go to the municipal plant as compared with one remaining with the company. These assumptions, however, have in most cases been theoretical, but we now have actual examples of how long a period has been required in a number of cities to establish themselves on an earning basis and acquire the light and power business.

It is interesting to note that the reductions in rates made by the municipalities have invariably been followed by reductions in rates by the private companies in their efforts to hold the business; but that the consumers have forsaken the companies and connected to the municipal plant just the same.

In some of the larger municipalities the business has not been purely competitive because of the division of territory or a working agreement made whereby the company would hold certain consumers and the city acquire other consumers. Such mutual agreements were entered into at Los Angeles and Seattle, to a certain extent. These agreements have even covered the joint use of poles in some places; so we do not have many records of what may be termed a "thoroly competitive plant."

Of the several hundred competitive plants in operation, neither the company nor the city has kept very accurate records of the growth or loss of business by either the company or the city. In recent years, however, a number of cities have established good records that may be used as a criterion in other cities, indicating

how long a time is required to establish a municipal plant on a paying basis.

Data and information in the way of the growth of the business, percentage of customers acquired by the municipalities, and time required, have been compiled for the cities of Muscatine, Iowa; Oberlin, Ohio; Modesto, California; Piqua, Ohio; and Los Angeles. There are no unusual circumstances surrounding these communities that would make them different from any other community, and it is believed that the record of these cities is typical of what might be expected in the establishment of any competitive light and power plant.

What these cities have accomplished is possible with any other similar community, and if the voters of a community are predominantly in favor of a municipally owned plant, there can be no doubt of its success, if it is given even a fair degree of intelligent management. The record of these cities and others that have procured a large percentage of the light and power business should serve as a warning to the companies—that where public opinion registers itself in favor of municipal ownership there is a reasonable assurance that the plant will have its consumers in about the same proportion as public opinion is expressed in the bond elections.

PUBLIC OWNERSHIP, THE WAY OUT[8]

Not long ago I was in the little city of Washington, Indiana, a city of 9,000 population. They have learned how to solve this problem. And I tell you this story because it illustrates so well the point I am making here.

This little city some thirty years ago acquired a municipal light and power plant. A municipal light and power plant is a great money-maker and this money goes to the municipality instead of to people in Wall

[8] From pamphlet by Carl D. Thompson. p.7-9. Public Ownership League of America. 127 N. Dearborn St. Chicago. 1933.

Street or elsewhere. Therefore, they found themselves steadily possessed of an ever-increasing income which enabled them, first, to reduce taxes; second, to reduce electric light and power; third, to pay off the city's debts. And still they had a constantly growing surplus.

Then came the depression. In the middle of that little town there was a shirt factory, employing about three hundred men and women. The owners of the factory, when the depression struck, tried to meet it as best they could, but failed, as other factories failed, and finally announced that they would have to close. The mayor said to the owners and operators of this factory, "We must not let this factory close. We have too many men and women on the streets now and on the public dole. You must keep your factory going." "But," they said, "we cannot; we cannot finance it."

So the mayor, the city council and the superintendent of the municipally owned light and power plant got together; they took $20,000 out of the surplus earnings of the municipally owned light plant and about $20,000 worth of stock in the shirt factory and said to the owners, "Now, here is your money. Go ahead. Make shirts. Keep our people at work."

"Why," I said to the mayor, when he told me about it, "that is a new one on me. I have heard of cities being in all kinds of enterprises, but I never knew before of a city going into the shirt business. I wonder if that is a sound policy to follow. You may lose the money." "Yes," he said, "we may lose it, but it would cost us more than $20,000 to take care of these people if they were out of work. Isn't it better to keep them at work than to let them get out of work and then take care of them with doles and charities they do not want?"

Well, I agreed with him, of course. And then he said to me with a twinkle in his eye, "Besides we are making 6 per cent on the $20,000 we have invested; and

we sell the shirt factory $8,000 worth of electric power per year from our municipally owned plant."

In other words, here is a city that is actually making money, keeping its unemployed at work. And what Washington, Indiana, can do, Chicago can do and any other city in Illinois or any other city anywhere in the United States of America can do.

The city of Los Angeles owns a great hydro-electric power system, the largest single system on the continent. Its profit last year was $3,900,000 above all costs of operation, including interest, taxes, depreciation and everything else, and out of the $3,900,000 it spent $1,000,000 taking care of its unemployed and keeping them at work.

Two years ago the cities in that section passed a $220,000,000 bond issue for another great public project in the southwest. Thirteen great cities joined in this enterprise which will put 50,000 people to work on a project that will pay for itself out of its earnings.

In other words, the possibility of a solution of the problem of the unemployed lies in the public ownership of revenue-producing enterprises that will pay for themselves and earn the communities a profit besides.

The federal government is proceeding precisely along this line with reference to Muscle Shoals. We have been struggling for many years to get this principle applied and at last the government has come to it.

Here are 16,000,000 people who need work. Private enterprise cannot give them work; it completely and absolutely fails. What then? The city, the state, the federal government must put them to work. How can this government, the city, or the state put them to work if it has no work to give them? Thus, we are driven, not by any theory, not by any desire or vision or hope or purpose of any organization or individual, but by sheer economic necessity. The government, to put people to work, must have work to put them to.

Public ownership of basic public utilities extended from city to city, point to point and project to project puts men to work, put them to work without any raising of taxes, puts them to work on something that enables them to pay back every dollar we use in putting them to work, and strengthens the government besides.

RURAL ELECTRIFICATION BY COUNTY POWER ASSOCIATIONS [9]

It has been contended by the opposition that the TVA rates are too low and that the TVA does not take all elements of cost into acount. That is not true. They count every element of cost including 5 per cent of their gross income to be paid the state of Alabama in lieu of taxes, and then get more than twice as much for this electricity as the power companies were paying for it before this bill was passed. The power companies did not kick then. They were getting this power at 2 mills a kilowatt hour, which they said was all it was worth, since it was then, and is now, being produced, according to the army engineers' report, at 1⅓ mills per kilowatt hour.

But the power companies, and especially the holding companies which own and control them, say that they have many items of expense the TVA does not have to meet. That is true. Here are some of them:

1. Dividends on watered stock.
2. Tributes to holding company.
3. Enormous salaries which grafting officials and directors pay themselves—from $25,000 to $250,000 a year—invariably taken out of the companies' assets at a time when its stocks have declined to the vanishing point and when both the operating company and the holding company are hopelessly bankrupt.

[9] From speech of John E. Rankin. *Public Ownership Conference. Proceedings,* 1935. p.169-71. Public Ownership League of America. 127 N. Dearborn St. Chicago.

4. Bonuses and other rake-offs, some of which make the salary of a member of the TVA look like a tip to the waiter.

5. Money spent to hire high-priced lawyers for their political influences such as are now bombarding Congress against the utility bill.

6. Expenses of propaganda such as they are now spending by the millions on telegrams, letters, etc., trying to browbeat Congress into defeating the administration's bill to put an end to racketeering thru holding companies.

7. Then there is the money spent to buy up newspapers and magazines. They used to buy advertisements in newspapers. They then began to buy headlines, news columns, and editorials. Now they just buy the papers or a controlling interest in them and hire their own editors and reporters.

8. Then there are their expensive lobbyists around Congress and the various state legislatures, to say nothing of the campaign expenses they have to put up for their candidates for office.

All these things cost money, and there are many other items that I have not mentioned, such as radio speakers, school book writers, college professors, that have been found on their pay rolls.

All these things are expensive, even when paid for in watered stocks. No wonder they had to spread the price of $2 worth of electricity and sell it to the defenseless consumers in the Muscle Shoals area of Mississippi, Alabama, and Tennessee for $100. Otherwise, how would the Commonwealth and Southern, one of these holding companies that is now bombarding Congress against the utility bill, how would they have got the money to pay the president of that concern $130,000 salary in 1932—more than twice the salary of the President of the United States after he returned his cut; how else could they have met such expenditures in the depths of the greatest

depression of all times without exploiting the helpless consumers of electric lights and power?

You see, the TVA does not have to meet such expenditures, and therefore it is able to sell power at rates based upon the cost of production and distribution.

Now let's turn to the question of rural electrification. This is one of the most important phases of this great program—taking cheap electricity to the farm homes of America.

If we can supply every farmer with electric lights and power at TVA rates, so that he may light his home and his barn, pump his water, run his refrigerator, electric churn, radio and other necessary electrical appliances, at a reasonable cost, we will be giving him real farm relief that will make farm life more pleasant, more profitable, more attractive, and more abundant.

Shortly after the passage of the Muscle Shoals bill, I began to organize county electric power associations in the district which I have the honor to represent. The object of these associations was to get power from Muscle Shoals at TVA rates, not only for the people in the towns and cities, but to get it carried to every farm home in the county, if possible.

I want to call your attention to what has been done thru the County Electric Power Association in Alcorn County, Mississippi. In my opinion, they have the ideal system, and I heartily commend it to the people of every section of the country. The power system in Corinth, the county seat of Alcorn County, was formerly owned by the Mississippi Power Company. It was sold to the Tennessee Valley Authority, which in turn sold it to the Alcorn County Electric Power Association, which was incorporated under the laws of the State of Mississippi as a non-profit-sharing institution. During the summer of 1934 this county association entered into this contract with the Tennessee Valley Authority to purchase all of its electrical properties in the county, and at the same

time entered into a contract with the TVA for the purchase of electric energy at wholesale.

Altho the rates in Corinth had already been reduced by the power company as result of the example set by the TVA in the publication of its yardstick rates and the public demand for rate reduction which the example of the TVA had inspired, yet this Alcorn County Electric Power Association immediately gave the consumers an additional reduction in rates averaging about 50 per cent.

For instance, 50 kilowatt hours which cost a domestic consumer $4.60 under the rates prevailing before the TVA Act was passed had been reduced by the power company to $3.50, and the Alcorn County Electric Power Association reduced it to $1.50. As I pointed out recently, 50 kilowatt hours of electricity a month costs a farmer in Iowa $7.50; in Kentucky, $4.60; $6 in New York; $3.25 in Virginia; and $6.20 in Arkansas—under the rates now charged by the power companies where they serve any farmers at all.

One hundred kilowatt hours under the rates prevailing at the time of the passage of the TVA Act would have cost a consumer in Corinth $8.60 a month, and if he had lived in the rural districts, there would have been an additional amount added as a "line charge." The power company reduced it to $5.35 to a consumer in Corinth, and the county association immediately reduced it to $2.50.

Now, remember that the county association made its rates to apply to the people in the rural districts the same as in the city of Corinth. Three hundred kilowatt hours a month, at the time of the passage of the TVA Act, would have cost a domestic consumer in Corinth $23.60. That was reduced to $9.35 by the power company after the TVA Act went into effect and the county association reduced it to $5.50.

At the time the TVA Act was passed, 1,000 kilowatt hours a month, which by the way, was costing the power

company $2 at Muscle Shoals, 50 miles from Corinth, when sold to one domestic consumer in the city of Corinth would have cost him $66.10. At the present time it costs him $8.90, whether he lives in the city of Corinth, in the town of Rienzi, or out in the rural district.

Of course, even under the rates now charged by the power companies, after they have made their boasted reductions, this 1,000 kilowatt hours a month would cost a farmer $19.59 in Georgia, $19.80 in Pennsylvania, $34 in Kentucky, $41.89 in Maine, $35.90 in Arkansas, $45.50 in Virginia, $46.50 in Iowa.

Under the contract with the TVA, this county association is to pay for the entire system over a period of years out of the earnings from its operation. In addition to the present distribution system, its contract provides that the TVA is to build approximately 100 miles of rural lines. This will furnish a network of lines reaching into practically every community in the county.

As I said, the electric rates thruout the county are uniform and members share equally in the benefits of the program, regardless of their location. Rates to the residents in the city are identical with the rates paid by the farmers in the rural districts.

The property originally transfered to this county association by the TVA was valued at $114,633, and it was estimated that the cost of the construction of these rural lines will be about $125,000. The county association is obligated to reimburse the TVA for the full cost of these properties and to pay interest at the rate of 3½ per cent on the deferred payments.

Each consumer buys a membership in the association, which he may pay for in full or he may pay by the month at the rate of 1 cent per kilowatt hour of electricity up to 100 kilowatt hours. For instance, if he pays $1.50 for 50 kilowatt hours of electricity, he pays then 50 cents, or 1 cent per kilowatt hour, into the county association. If he only uses 25 kilowatt hours, he pays

25 cents a month; if he uses 100 kilowatt hours, he pays $1 into the County Association; but no matter how much more he uses, the monthly instalment will not amount to more than $1.

I have before me a report of the Alcorn County Electric Power Association for the first 6 months of its existence. It shows that the gross operating revenues during that 6 months amounted to $38,460.26, and the gross operating expenses, including maintenance and taxes, amounted to $19,884.29. This gave the association a net operating revenue of $18,595.97. After all adjustments for depreciation and for interest on long-term debt, there remained a balance net profit of $14,435 to be transferred to surplus. This did not include any of the proceeds from the amortization charge of 1 cent per kilowatt hour. If these proceeds had been included, the net balance available for transfer to surplus account would be approximately $19,370.

At this rate the present properties of this county association would be completely amortized within 3 to 4 years, and the entire cost, including the construction of the 100 miles of rural power lines, would be entirely wiped out within 6 or 7 years.

At the same time it has given the commercial consumers reductions averaging 50 per cent on top of the reductions that had already been made as result of the activities of the TVA. One hundred kilowatt hours, which a year ago cost a commercial consumer in Corinth $7, now costs him $4.30, including the $1 per month amortization fund, which makes his electric bill amount to $3.30. A merchant who used 300 kilowatt hours a year ago paid $21 for it; today it will cost him $9.35. One who used 800 kilowatt hours a year ago paid $52 for it; today it will cost him $20.35. One who used 1,400 kilowatt hours a month a year ago paid $82 for it; today it costs him $29.15.

Reductions have also been made in the industrial power rates, which have enabled the many small industries in the city of Corinth to keep going, pay their employees, and show reasonable profits on their operations during the time this contract has been in effect.

I commend this county unit system because I believe it is the best plan that has yet been developed to reach all the people in a given area with cheap electric lights and power and to treat them all alike.

INSTITUTE FOR MANAGERS OF PUBLICLY OWNED UTILITIES [10]

The publicly-owned utilities of America fall generally into two classes: first, those which are supported by general taxation, such as sewer systems, streets, and fire departments; and second, those which are paid for directly by the users, including water supply, electric power systems, municipal markets, toll bridges, and miscellaneous services. I have not at hand an estimate of the number of publicly-owned utilities which are supported by direct charges for the services rendered, but I should guess that there are not less than ten thousand in the country. A large number of these are administered by full-time, paid managers.

There is great variation in the competence, honesty, and economy with which these publicly-owned utilities are managed. In some cases, their management represents the highest order of efficient and economical administration; in some cases it is entangled and compromised in sordid and corrupt political manipulation.

Growth or decrease of public ownership and operation of public utilities in this country will depend in the long run not upon abstract theories about government but upon the record of economy and efficiency achieved

[10] By Arthur E. Morgan, Chairman, Tennessee Valley Authority. *National Municipal Review.* 25:268-70. May, 1936.

by public ownership and operation as compared with private ownership and operation. There is room for great improvement in both public and private operation of utilities. If some means can be developed for substantially raising and stabilizing the quality of administrative service in publicly-owned utilities, the effect on our public life will be very wholesome.

I believe it would be possible to bring about a very great improvement in the average quality of administration of publicly-owned utilities thru the development of an "Institute for Managers of Publicly-Owned Utilities." A considerable number of these utilities have managers of a very high order. Those managers who represent non-partisan and non-political administration could organize themselves into such an institute and could develop a code for its membership. Such a code could provide general principles of accounting to prevent manipulation of accounts, and to supply the public with direct, intelligible statement of financial conditions. It could provide for the elimination of political appointments, and for the maintenance of the merit system in selecting and retaining personnel. It could prohibit political campaign subscriptions. In these and in other respects, representative and accepted standards of administration could be prescribed. Anyone failing to maintain these standards would be eliminated from membership in the institute.

If such an institute were established and these standards were to prevail, the fact that any manager of a publicly-owned utility was not a member of this institute would at once raise questions in the public mind. If the manager should withdraw from the institute because its standards would not allow him to condone improper practices, the public would at once have notice of such practices. If he wanted to resist improper practices, the prestige of the institute would support him; whereas, at present, he may stand alone against a cor-

rupt governing board. Such an institute would be a standardizing agency, and any publicly-owned utility which was not represented in the institute by its manager would at once be under public criticism. The general effect would be to provide a powerful support for managers in maintaining high standards of public administration and would be a great deterrent to politically-minded governing boards in any effort they might make to manipulate publicly-owned utilities for personal or political ends.

As an instance of how such discipline may operate, let me recount an incident told me by Dr. Edwin F. Gay, former dean of the Harvard Business School. Mr. Gay said that as a young man he had occasion to do business in Chicago with a railroad accountant. When their business was concluded, the accountant told him an interesting story. He said that a few years previously the lot of railroad auditors in the country was an unhappy one. If the manipulators of a railroad wished to make a fortunate showing in the financial world, the railroad president might call in his chief accountant and order him to change his accounts so as to show a good profit. If the accountant refused, he could be unceremoniously dismissed.

About that time the railroad accountants organized themselves into a national association and set up standards which had to be observed by all its members. Within a few years the prestige of the association was so great, according to the person telling the story, that no railroad president dared to demand his chief accountant to falsify the records. The man who told this story, according to Dean Gay, was Daniel F. Willard, who later became the great president of the Baltimore and Ohio Railroad.

There are other important and valuable services which could be rendered by an "Institute for Managers of Publicly-Owned Utilities." Regular meetings and a

periodical could supply a clearing house for administrative methods. It would be highly important for such an institute to maintain a central advisory staff. It is very difficult today to find competent consultants for publicly-owned power systems, since most competent men in that field find their employment with the privately-owned utilities. A well developed, central advisory staff would consist of engineers, lawyers, accountants, and specialists in the field of publicly-owned utility management. These men, while employed by the institute, would be available to serve municipalities or other public organizations, especially those owning and administering utilities. The charges for their services should in time meet the cost of this central staff.

There is another great service which such a central staff might perform. Today when a municipality which is being served by a privately-owned utility finds it necessary to have a hearing before a state public utility commission, it is generally greatly handicapped by the lack of efficient technical advice, since nearly all the specialists are employed by the privately-owned utilities. As a result, municipalities commonly make a very poor showing at such hearings. A central staff such as is here suggested would include specialists who would be available for employment by any municipality in the country in case of hearings before public utility commissions. In this way a body of competent advisers could be developed for the protection of the public interests.

Public ownership of essential utilities has many marked advantages. If patronage and politics can be taken out of administration and it can be brought to a high level, and if the best technical and professional methods can become the common property of publicly-owned utility management, it is probable that public ownership may be greatly extended. I repeat, however, that in the long run the American public will make its choice between public and private ownership of utilities

by practical results and not by political theories. The extension of public ownership today is being delayed and hampered by the frequent occurrence of incompetence and mismanagement which in extreme cases may create a greater public burden than exploitation by privately-owned utilities.

There is another service which might be performed by an institute for managers of publicly-owned utilities. For several years past I have hoped that Antioch College might be made the headquarters of such an advisory staff as I have described. The Antioch College program provides that each of its students shall spend about half time in academic work and the other half time in practical work in the field of the student's choice. Such an arrangement makes an ideal setting for a training school for managers of publicly-owned utilities. If the central advisory staff were located at the college, its members could give courses in the various phases of utility administration and of general municipal administration, such as accounting, engineering, and legal principles. Students specializing in this field would spend half their time at the college taking the theoretical courses, and the other half time in subordinate positions with publicly-owned utilities over the country after the manner of the Antioch program. Antioch students are now working with more than two hundred and fifty employers in about fifteen states. Two students hold one position and work in alternate shifts of five or ten weeks.

Under the program I have suggested, upper class students might work as assistants to auditors, engineers, and statisticians for appraisal of utilities. After a few years of such a program, a student could work for a year at a time in two or three utilities, chosen because of the competency and efficiency of their management. I believe that in this way there might be developed a body of young men, well trained under competent specialists and with excellently directed practical experience,

who in time would become competent managers of publicly-owned utilities as that form of activity increases in our country.

Being associated with an institute for managers of publicly-owned utilities, what is now an unorganized number of public servants, working under the most diverse conditions from those which are excellent to those which are very bad, might become a recognized professional group of high quality utility managers who would bring great improvement both to the public and to the private operation of public utilities.

EXCERPTS

Rates fixed for utility service are analogous to taxes. The consumer can not dicker nor barter with the company, but must pay the rates in force; and the gross cost of these services usually amounts to three or four times the tax bill of the average city. *Willis J. Spaulding, Commissioner of Public Property, Springfield, Ill. Public Ownership Conference. Proceedings,* 1935. *p.7.*

Twenty-one of the largest insurance companies of the nation, with total assets of $7,871,000,000 and representing 79 per cent of the total investment of all life insurance companies, own no utility common stocks whatever, own less than one per cent of utility preferred stocks, own 9.5 per cent of bonds of utility operating companies, and none in holding companies. *Maurice P. Davidson. "Do We Need a Municipal Power Plant?" p.*5. *Je.* 16, '35.

Statistics will show that practically every city in the United States that owns and operates its electric and water plants is in first class financial condition, and practically none of them have defaulted on any bonds. However, most of the cities where these major utilities

are operated by private concerns are in financial distress and a large number of them have already defaulted on their bonds, and many are on the verge of defaulting. This one thing alone is proof enough that public ownership is a success. *Ernest E. Anders. "What Municipal Ownership has done for Jacksonville, Florida." Public Ownership League of America. p.*1. '33.

In conclusion, may I again quote from the words of Railroad Coordinator Eastman:

> If we should adopt the principle that every government function shall be performed directly by the state and shall not be farmed out to private enterprise, it is my sincere belief that the ultimate result will be to increase respect for the government and improve the character of our public service. . . . I believe that it would be a far healthier situation that this country should struggle toward an ideal than that it should surrender to the baser principle that the public good can only be attained to that extent that it happens to coincide with the ends of private profit.

Harry W. Laidler, League for Industrial Democracy. Business Bulletin. My. '35. *p.*20.

So many times the private utility corporations are eager to accuse the municipal plants of being greatly involved in politics. In Springfield this is on the contrary. It is a known fact that many times private utility companies have made large donations to political parties in order to elect some individual who would keep a tight rein on the doings of regulatory bodies, which goes to prove that the private plants are in many instances more involved in corrupt politics than any municipal plant dare be. *Samuel J. Sibley, Supt. of Light and Power, Springfield, Ill. Public Ownership Conference. Proceedings,* 1935. *p.*94.

Professor James C. Bonbright, Frank P. Walsh and other members of the New York State Commission of Revision of the Public Service laws thus stated, after a

thoro investigation of electrical operation in New York State:

> We are impressed with the fact that four successive legislative investigations, covering a period of more than forty years, have found the same condition—the utilities seeking excessive profits and attempting to disguise the rate of return on actual investment by some form of overvaluation. . . . Effective regulation has broken down and the consumer has been left to the exploitation of the monopolistic private companies which control the public services.

Harry W. Laidler, League for Industrial Democracy. Business Bulletin. My. '35. p.9.

Cincinnati, of approximately a half-million population, has thru its municipal authorities investigated the question of rates and municipal ownership. A complete appraisal and inventory has been made of the electric utilities, discovering the fact that the city is entitled to a 37 per cent reduction in rates from its present rate schedule. Even this reduction would then only bring the rate to a fair and reasonable one that could be accomplished with a municipal plant. The city officials of Cincinnati are being urged toward a municipal plant thru the filing of a petition by 35,000 users of electricity. *R. E. McDonnell. "Recent Trend to Municipal and Public Ownership in the U.S. p.8. '33.*

The cry of socialism is a poor alibi. It is made for the purpose of diverting attention from the record of exploitation, which recent official surveys have shown to be inherent in the administration of the private utilities. If municipal operation of power plants is socialism, then the English people must be termed socialistic, for in Great Britain municipal operation is the rule rather than the exception. The English people, who are regarded as the most hard headed people in the world, consider this to be good business and have set up a central electrical board to operate a vast transmission "grid" which

supplies power to the municipalities. *Maurice P. Davidson, "Do We Need a Municipal Power Plant?" p.* 4 *Je.* 16, '35.

There are many communities at the present time engaged in the ownership and operation of their utilities which are too small in size to reap in full the benefits that should naturally accrue from such ownership and operation. I am inclined to believe that many of these small communities should pool their interests with those of a community of a more substantial size within reasonable transmission distance, and establish a plant of sufficient size to guarantee the best of economy, the lowest cost of production, and the best modern type of service. If such a policy were pursued municipal plants of this nature could make use of the particular type of natural resources that are most available, whether they be oil, gas, or coal, and, in making use of such natural resources, benefit not only their local communities but the territory that contributes to their support. *James D. Donovan, Supt. Municipal Light and Power Plant, Kansas City, Kans. Public Ownership Conference. Proceedings,* 1935. *p.* 29.

The effectiveness of public competition in reducing the rates charged by private companies has been demonstrated in too many cities to be longer open to question. In Washington, Cleveland, St. Louis, and more recently in Cincinnati, under this influence, residential rates have come down to levels far below those prevailing where regulation is the only means of public control. Canada offers even more striking evidence, especially in the story of Montreal. There, as the result of a small municipally owned distribution system in a separately incorporated residential section of the city, the great Montreal Light, Heat, and Power Company has steadily reduced its rates thruout the entire city until a residential use of 50

kilowatt hours a month costs only 3.2 cents per kilowatt hour. With larger residential usage the average rates correspond closely to those suggested in the Power Authority distribution-cost survey. On the basis of these rates the company has been exceedingly prosperous. *Frank P. Walsh, Power Authority of New York State. Nation. Ja.* 16, '35. *p.* 66.

The justification for rates charged is the right to a fair return on capital invested and used to maintain and operate the service, and this capital is known by the term "rate base structure" and the company is entitled to a fair return upon its actual investment. But here is the truth:

The report of the State Power Authority shows overwhelmingly by detailed evidence that there is some $80,000,000 of water in the rate base structure of the Consolidated Gas Company which means stock not represented by a dollar of money invested but which the public is nevertheless asked to pay a return for the purpose of yielding dividends and the public has paid a return on this water for 35 years.

In addition it has been shown that obsolescent property carried upon the books as part of this rate base structure and other extravagances amount to an additional $200,000,000. Together these items make $280,000,000, which is a very substantial part of the $721,000,000 claimed by the Consolidated Gas Company as the amount upon which they are entitled to base their charges. *Maurice P. Davidson, Commissioner, Dept. of Water Supply, Gas and Electricity, New York. "Why New York Citizens Should Demand Public Competition with Private Utilities." p.* 2.

The best propaganda that can possibly be used, and which has perhaps caused the greatest trend toward municipal ownership, is the successful operation of many of our outstanding municipal plants.

The excellent financial records already accomplished, the existing low rates, the good service rendered, and the absence of or freedom from political management in the hundreds of plants thruout the country are the strongest arguments for municipal ownership. Board of Trustee or Utility Board Management is rapidly displacing councilmanic management. No more efficient or competent operation exists than in a great majority of the municipal plants. It is true that in both private and municipal operation there will be occasional shortcomings and short-sighted policies. Neither side is perfect. Mistakes will always be made regardless of the kind of ownership. The public hears more about the doings of the private plants and of the failures of municipal ownership because such propaganda is given the widest publicity, and such publicity is paid for by the public in the rates you pay. The municipal plants, with but few exceptions, do but little advertising for business, and then in a large measure it is done in defense of or to counteract the paid propaganda against public ownership disseminated by the representatives of the power companies in struggling to compete with the low rates of the municipal utilities. *R. E. McDonnell. "Recent Trend to Municipal and Public Ownership in the U.S. p.* 6. '33.

All the benefits that Jacksonville has derived from municipal ownership are too numerous to mention in the time allotted me, but I will attempt to outline some of the outstanding ones:

1. Municipal ownership has put Jacksonville in the enviable position of collecting the smallest tax on real property of any city in the United States of any importance, with the expectation of being tax free within five years' time. When this is accomplished, Jacksonville will be the world's largest tax free city.

2. The city earns, thru the operation of its utilities, approximately the entire operating cost of city government. The taxes collected during the past few years have been practically all used for the purpose of meeting interest and sinking fund on outstanding bonds, and making improvement.

3. Owning and operating the electric plants has saved for the people, over a period of 40 years, approximately $1,000,000 a year in electric rates under what they would have paid had the plant been privately owned.

4. Municipal ownership has made it possible for the people of Jacksonville to have a rate for water that is 50 per cent lower than rates charged in more than 300 American cities with total population of approximately 50,000,000 people. This has saved the people many millions of dollars.

5. On account of the city owning its electric plants, it places Jacksonville in position to encourage the establishment of industries by offering advantageous power rates. *Ernest B. Anders. "What Municipal Ownership has done for Jacksonville, Florida." Public Ownership League of America. p.* 2. '33.

The immediate efforts of the power interests to compromise in New York State center around the proposal to put into effect the so-called Washington plan of sliding scale rate adjustment, which originated here in the District. However well this plan may be working in Washington today, in New York it would mean nothing more than an attempt at regulation in a different form. I can assert with great confidence, on the basis of my knowledge of the New York situation, that it will not succeed there without the force of genuine public competition.

The New York Public Service Commission faces a much larger task than that here in the District of Columbia. The task of checking the companies' initial

rate base and subsequent additions on the New York scale I believe to be insuperable. Already, in the proposal of an initial rate base by the Consolidated Gas Company of New York, we find a brazen effort to preserve the bulk of the excessive capitalization which now burdens the system.

The power companies, by these proposals, are simply trying to undermine the present pressure of public opinion in the direction of public competition. Public yardsticks have become a nightmare to them.

In New York State the entire issue is closely associated with the St. Lawrence development, because in the Power Authority Act the state definitely makes potential public competition a feature of state policy. The power interests have mobilized every force to block the public development of St. Lawrence power. If they can thwart this project they will have removed the keystone from the arch which sustains the movement to free our state from a power monopoly and make it an exemplar for other communities. *Frank P. Walsh. New York Power Authority. Public Ownership Conference. Proceedings,* 1935. *p.* 56-7.

I am giving here the overcharges by states, showing the amount that the people of each state would save if they were getting their electric energy at the TVA rates.

These amounts represent the savings for each state *per year*:

Alabama	$ 6,163,000
Arizona and New Mexico together	4,287,000
Arkansas	4,157,000
California	53,503,000
Colorado	6,405,000
Connecticut	14,451,000
Delaware, Maryland, & W. Virginia and the District of Columbia	24,870,000
Florida	9,141,000

Georgia	9,666,000
Idaho	2,761,000
Illinois	58,474,000
Indiana	19,184,000
Iowa	12,480,000
Kansas	9,174,000
Kentucky	8,227,000
Louisiana	7,401,000
Maine	5,087,000
Maryland *see* Delaware	
Massachusetts	37,184,000
Michigan	34,025,000
Minnesota	14,460,000
Mississippi	3,981,000
Missouri	21,068,000
Montana and Utah together	6,546,000
Nebraska	7,156,000
Nevada	1,034,000
New Hampshire	3,443,000
New Jersey	39,123,000
New Mexico *see* Arizona	
New York	125,699,000
North Carolina	10,642,000
North Dakota	2,184,000
Ohio	46,843,000
Oklahoma	8,639,000
Oregon	6,929,000
Pennsylvania	71,169,000
Rhode Island and Vermont together	8,222,000
South Carolina	5,567,000
South Dakota	2,480,000
Tennessee	9,852,000
Texas	24,912,000
Utah *see* Montana	
Vermont *see* Rhode Island	
Virginia	9,600,000

Washington	12,188,000
West Virginia *see* Delaware	
Wisconsin	17,893,000
Wyoming	1,318,000

Of course, the people of the various states would save a great deal more than this record indicates if they were getting their power at TVA rates, for the simple reason that they would use more of it. They would also enjoy the use of more electrical appliances, such as refrigerators, water pumps, electric ranges, washing machines, and other labor-saving devices. *Adapted from speech of Representative John F. Rankin. Congressional Record. F.* 28, '36. *p.* 3121-2.

The power people complain that what the government is doing will destroy much of their investment and the dividends of great numbers of stockholders. The answer to that is as old as the Latin proverb which says the welfare of the people is the supreme law. The highway system in the United States is the most extensive in the world. Built in part with federal money, it has brought the once proud railroad industry to its knees, impaired the reserves of the insurance companies, and affected the dividends of investors. Is there anyone who doubts that the highways are an immeasurable gain for the people, whether from the viewpoint of utility or pleasure? Does anyone question the wisdom of the government's cooperation in the construction of the highways? Certainly not.

The thing is on all fours with the federal policy as to power. Electricity should be cheap. It serves the people in many ways. It is cheaply produced. Why should the people of a free country, if they wish to enjoy it, pay enormous profits to the predatory power magnates? Why should they pay to people who buy elections and corrupt legislatures two or three times what

their government can sell it for? The people with investments in power properties with which the government is going to compete at Muscle Shoals and Boulder Dam, and the people with investments in railroads, which compete with the highways, built in part with federal money, are the victims of change. We can sympathize with them, but we cannot stop the march of human progress. Lloyd George, at 70 says science is the great revolutionary. *Clark McAdams, St. Louis. "Triumphant Cause of Public Ownership in the United States." p. 7-8. Public Ownership League of America. Chic.* '33.

Government a failure in private industry? Yes, often it has failed to grade 100. But if any government has made a more signal failure in business than private industry has made in the United States the last eighteen months, I don't know where to find it.

As for the purpose of government, that was stated in 1776, in the immortal Declaration of Independence, in words which no man has ever been able to improve—to protect the people in life, liberty, and the pursuit of happiness. Just what a government must do in the performance of this duty changes from time to time. In Jefferson's time it seemed that the government had discharged its obligation if it did all it could to protect the life of the citizens against murderers and foreign foes; today we call upon it to protect us against those unseen foes of life known as microbes. Then the government was to abstain from oppressive taxation, and leave the individual free to follow his own devices in the pursuit of happiness; in the modern complex scheme of life I am not free in the pursuit of happiness if the government abstains from oppressive taxation, but leaves my fellows free to pounce upon me and take away my sustenance in the form of unjust and oppressive rates for essential services.

The truth is, the individualist does not object to the government in business where the task is too big for him or the chances of profit are very slim. No individual or group of individuals would tackle the Erie, Canal, but the state of New York built it, and it proved a paying financial venture until the railway, the coming of which no one could foresee, took away its profits. Private industry tried to build the Panama Canal, but made a dismal failure of it. Then the United States government stepped in, and its efforts were marked by brilliant success. *David Y. Thomas, University of Arkansas. Southwestern Social Science Quarterly. Je.* '31. *p.*11-12.

The Tennessee Valley Authority was created six months ago. It meant the beginning of a new power policy, not only for the South but for the nation. Since the TVA announced that the two major objectives of its power policy were more effective protection of the public against unreasonable rates and financial abuses by private utilities and a greatly increased use of electricity, the following significant developments have taken place:

The Georgia Public Service Commission ordered the Georgia Power Company to cut rates by 3 to 37½ per cent, amounting to an annual saving for power users of the state of $668,200.

Rates in Alabama have been reduced approximately 23 per cent.

In Memphis, Tennessee, the day after the city applied for TVA power, the Memphis Power and Light Company, subsidiary of the Electric Bond and Share, offered to reduce its rates.

The Tennessee Power Company has cut the light bill of the city of Chattanooga.

The Mississippi Power Company has offered to reduce rates in northeastern Mississippi, but the towns are not interested. They want TVA power. Tupelo, Mississippi,

was the first town in the Tennessee Valley to sign a contract for TVA power.

In Knoxville, Tennessee, twenty-five miles from Norris Dam, the citizens by a two-to-one vote approved a $3,225,000 bond issue with which to build a municipal transmission system which would tie in with a TVA power line at the city limits. A few days later the Tennessee Public Service Company, the Electric Bond and Share subsidiary which serves Knoxville, wired Public Works Administrator Ickes and the State Public Works Administration asking for an opportunity to be heard on the city of Knoxville's application for the loan. It also wrote a letter to the City Council asking for a conference to discuss the matter.

Since the TVA came to the Tennessee Valley, the power interests have had only one victory. The Alabama Power Company succeeded in having municipal power voted down in Birmingham. Money flowed freely in the campaign; the amount has been estimated to range from $50,000 to $100,000. Birmingham was the first city in the Valley to vote on the purchase of TVA power and the power interests considered the outcome there of primary importance. However, Knoxville didn't follow suit. *John T. Moutoux, Knoxville, Tenn. New Republic. D.* 27, '33. *p.* 193-4.

The movement for municipal ownership has advanced more slowly in Utah cities than in most Western communities. Only nineteen small towns, of which the largest, Logan, has only 10,000 inhabitants, have municipal power and light plants. This apathy toward public ownership has deprived the community of an effective stimulus to the use of initiative and referendum.

Then came the depression, destroying Utah's conservatism. A rising tide of resentment was directed against the corporation which owns most of the public utilities in Utah, the Utah Power and Light Company,

whose stock scandals and racketeering methods had been disclosed by the Federal Trade Commission. The belief has become widespread in Utah that the Utah Power and Light Company has abused its monopoly powers and that it unduly influences town and city governments. A branch of the Electric Bond and Share Company of New York, it siphons vast sums of money out of the pockets of Utah consumers and empties them into the pockets of Wall Street magnates. When the depression came, the company laid off large numbers of wage and salary earners and lowered the pay of others, but stubbornly maintained the high price of its product. Tho its electricity is produced from cheap mountain water power, its charges to householders run as high as 9 cents per kilowatt hour, while its lowest rate is a combination of 5 cents per kilowatt hour. Altho prosperous, it chose this year to suspend dividends on its preferred stock. While it thus withheld dividends from many stockholders, its gross income was more than $9,000,000 for the year. The stock on which it failed to pay dividends was non-voting stock. Thus a large group of stockholders, deprived of voting rights in the corporation and powerless, was left holding an empty sack.

Their resentment was accentuated by a recent Federal Trade Commission report which revealed that the Utah Power and Light Company continued to pay dividends to a favored inner group on $35,000,000 of watered stock. The company boasts that it is "publicly" owned thru the wide diffusion of its stock. But many of the owners of the stock are beginning to realize that holding allotments of non-par, non-voting stock, too small to affect their incomes appreciably, is a very unsatisfactory form of "public ownership." They are telling the referendum field workers that real public ownership offers them much more, thru cheaper rates, than they can hope for from the kind of "public ownership" the Utah Power and Light Company provides. They say further that

the successive high-pressure stock-selling campaigns put over by the corporation were apparently a method of bribing the public and buying its allegiance in order to prevent real public ownership. *Murray E. King. Nation. O.* 11, '33. *p.* 408-9.

Some years ago, when investigators for the Missouri Public Service Commission found that the Doherty people had allocated to profits part of a bond issue upon one of their utilities at Joplin, I wrote the late Senator Thomas J. Walsh of Montana and asked him if something could not be done to stop such practices. He answered that nothing could be done until the people rebelled, and this is just what they have done. More than 7000 cities and towns in the United States have gone into the utility business, and as a consequence 84 of them are no longer levying taxes. Practically all of them own their own water supply. It is true that in public ownership any profit to the community is a tax imposed in the form of rates, but the case is not the same.

The difference is illustrated in St. Louis, where some $10,000,000 in profits have been taken out annually by the owners of the utilities. These profits go to Wall Street, where the House of Morgan alone controls from 22 to 23 per cent of all the electrical energy in the country and 22 per cent of the gas. This does not include the vast interests of Electric Bond and Share, also controlled by Morgan and Company. It costs $40,000,000 a year to run St. Louis. When the municipal water utility, upon which $12,000,000 was spent under a bond issue in 1923, retires its debt, the utility can bear its share of city maintenance. All the utilities in St. Louis can be made to do the same thing. It is a matter of good government. A city is a great corporation. Imagine any other corporation, with the means of making millions for itself, handing those millions over to others.

The city of St. Louis, like every other big city in the United States, is pressed for funds. It seeks to balance its budget by devising new taxes, when in truth it can balance it only by putting in its own coffers the profits of the utilities. They are beginning to see this in St. Louis, as they are beginning to see it in every other big city. It is one of the inconsistencies of city management all over the United States that whereas the taxpayers have paid for all the non-profitable social services, such as sewage, streets, education, parks and playgrounds, they have turned over to private enterprise the revenue-producing services, such as transportation, water, gas and electricity. It is a commonplace in Europe for the cities to render all these services, and it will not be long until American cities are doing the same thing. *Clark McAdams, St. Louis. "Triumphant Cause of Public Ownership in the United States." p. 2. Public Ownership League of America. Chic.* '33.

The Tennessee Valley project is not a detached problem; it is not a regional welfare work; not an attempt to solve the economic problem of the South; not a social problem of the Valley; not an engineering project in itself and not a mere political expediency. It is an immensely more vast and a far more fundamental problem; it involves all of these but also more. Hence, treatment of any one of these component elements will lead only to confusion, misinterpretation and devaluation of the project as a whole. An elementalistic approach, overlooking the forest for the trees, has been too often a favorite trick of unscrupulous or narrow-minded critics. One may debate until doomsday the accuracy of the second decimal place in the electric-rates schedule or superciliously criticize the fertilizer formula or even write a learned treatise on the spiritual and biological value of going barefooted. *The problem as a whole is one of social-economic planning.* President Roosevelt, in his message to Congress propos-

ing the creation of TVA, plainly stated: "Many hard lessons have taught us the human waste that results from lack of planning. . . . Our nation has 'just grown.' It is time to extend planning to a wider field, in this instance comprehending in one great project many states. . . ."

The project thus depicted loses its local flavor and becomes a national experiment. As the TVA Act of May 18, 1933, specifies, there are many sides to be considered: There is the task of the production of cheap and efficient fertilizer; there is the job of generating and transmitting cheap electric power; to build dams for the hydroelectric development, navigation and flood control. At the same time there is a number of other tasks of a cultural and economic nature such as reduction of land erosion, afforestation, industrial development, manual training, etc.

Thruout the entire act a definite social point of view is plainly visible; namely, that the activities "Shall be considered primarily as for the benefit of the people of the section as a whole and particularly the domestic and rural consumers . . ." to whom the electricity and the fertilizers should be made available as economically as possible or even, as in the case of fertilizer, the Authority "may make donations . . . for experimentation, education and introduction of the use of such products. . . ."

In short, it is the reversing of the old philosophy of "fleecing the people" to that of "serving the people"; from the rampant anarchy of free competition in "doing your neighbor out of his share," to some sort of planned economy. *Walter N. Polakov, formerly Consulting Engineer for the Tennessee Valley Authority. Taylor Society and the Society of Industrial Engineers. Bul. Ja.* '35. *p.* '75.

NEGATIVE DISCUSSION

MEMORIAL ON POWER [1]

I appear before you as President of the Edison Electric Institute, with the approval of its board of trustees. This organization is the trade industry representing a very large proportion of the electrical current generated in this country. I do not come in any spirit of antagonism, but I am filled with anxiety over the grave crisis which now confronts this industry, and in this state of mind I reflect the opinion of the many thousands of persons who are employed thruout the land by this industry in one capacity or another and by a multitude of investors who see the safety of their life savings in jeopardy.

This industry is one of the major industries of the land. Its progress during the last fifty years, starting at zero to its present state of development, has been almost magical, and it has been one of the most substantial factors in the enormous development of the country which has taken place within that period of time. There is invested in it some $12,000,000,000 by many millions of direct investors, and indirectly by many millions more thru the ownership of the securities of these properties by life insurance companies, savings banks, stock fire insurance companies and other corporations.

There is hardly any citizen of this country possessing any qualities of thrift who is not either directly or indirectly interested therein. The life insurance companies of the country hold approximately $1,651,000,000 of the securities of these electric companies; the savings

[1] Transmitted to President Roosevelt by Thomas N. McCarter. *Commercial and Financial Chronicle.* 139:3891-2 December 22, 1934.

banks and trust companies hold $2,000,000,000. The companies composing this industry practically without exception are operating subject to thoro-going regulation by state-constituted tribunals. An overwhelming percentage of the business of the companies is intrastate, as distinguished from interstate, under the definition of these respective kinds of commerce laid down by the Supreme Court of the United States.

Since the coming of state regulation, which has had an average existence of approximately twenty-five years, all that these companies have sought to earn, or have been allowed to earn, is a fair return upon the capital devoted by them respectively to the service of the public. This has been the yardstick generally applied by the state tribunals, and it has only been in plain cases where this rule has not been applied that the Supreme Court of the United States has set aside rate decisions as confiscatory.

During the meteoric growth of this industry the holding company developed as a vehicle of financing. In the main, it has been a necessary and useful instrument, and should continue to be so.

It is true that in the period of frenzied finance and in the era of wild speculation in the years immediately preceding and ending in 1929 abuses and acts which cannot be defended crept into the manipulations of certain conspicuous holding company structures to the detriment of the public and the industry, but these were the exception and not the rule, and these abuses, except in the rarest of instances, did not involve the doings of operating companies.

Looking back upon the speculative era, we find that the follies of the day were not confined to any particular industry. The entire country lost its economic equilibrium and was off its financial balance. The nation, and the whole world, too, for that matter, is now paying the bill for this orgy of speculation in the serious depression which is now in its fifth year. The most

extraordinary and vigorous measures are being taken and vast outlays of public money are being spent to bring the country out of this depression and to restore normal business conditions.

Is it fair, or is it helpful to this great objective to single out any one industry, or any two or three industries, and visit upon it or them alone destructive punishment? Can the doubt and fear created by such a policy, both within and without an industry, fail to have its effect upon the body politic at large in creating uncertainty and anxiety, with a consequent retarding effect upon general recovery? What the power of government can do to one industry can likewise be visited upon any other form of business. No industry will be free from this devastating possibility.

The claim is made that rates, and especially rates to domestic consumers, are too high, notwithstanding the fact that thruout the country they are very generally as prescribed, after careful hearing, by state tribunals clothed with rate-making powers. Rate-making is a science and rates should be so arranged that, so far as possible, each class of customers, small and large, pay the fair cost of the service rendered to them respectively. There are certain fixed costs and charges in connection with serving any customer, large or small, which have to be provided for. This explains the seemingly high charges per kilowatt hour for the first small number of kilowatt hours of consumption. Even then the very small customers do not pay the cost of serving them. After these costs are absorbed, the cost of supplying increased kilowatt hours falls rapidly.

The great field for lower rates lies in increased consumption, the effect of which is to give an average low rate for all consumption. Rates cannot be uniform in different sections of the country, where conditions are radically different. Their proper fixation depends upon the size and density of the territory served; the differing

costs of labor and material, the freight rates involved, the taxes imposed under different jurisdictions, and many other factors differing in various sections of the country. It is contended that if we were to begin de novo with government funds, developing water powers or building new plants with funds furnished by the government, either at low rates of interest or partly advanced by gift and the balance on loan at low rates of interest, electricity could be furnished to the democratic consumer cheaper than existing companies are now able to supply it; that such public properties would operate either wholly tax free or with a minimum of taxation, and with certain other incidental advantages over privately operated companies, thus further reducing the cost.

Suppose all this is to be true. Is it fair? Is it just to existing investment? Is it in keeping with the declared policy of the National Industrial Recovery Act to prevent unfair competition? Is it in the spirit of American fair play?

The total taxes, federal, state and local, now paid by the industry approximate $250,000,000 per annum out of a total gross revenue of over $1,800,000,000, or nearly 15 per cent of the gross. In the company over which I preside, the taxation cost is approximately one-third of the total of all operating expenses of every character, including generation, transmission, distribution and depreciation. In these days when all avenues of taxation are choked to the limit, where will substitute sources of taxation be found if this industry be destroyed?

The history of municipal operation of public utilities in this country, with the exception of a very small number of conspicuous and isolated cases, does not indicate that upon a fair comparative basis they are operated as efficiently and economically as under private operation. The contrary is the case. The steady decline in the number of such plants over a recent period of years attests the truth of this statement.

Upon the merits of the case, the facts are as follows: The average bill of the domestic consumers in this country—the total number of which class of consumers run into the millions—is substantially less than $3 per month, or $36 per year. In the particular company of whose affairs I have intimate knowledge, the average is $2.80 per month, or $33.60 per year.

This is less than 10 cents per day; less than the cost of a package of cigarettes; less than the price of a gallon of gasoline; less than the price of a ticket to a moving picture theatre; a relative trifle in the daily life of the average citizen. It is a very small portion of the budget of the average American family. Opinions seem to differ as to just what this average income is. But whatever latitude there may be in this figure, the electric bill does not exceed 2 per cent of the budget. Clothing, food, and the many other necessities of life run into the high percentages of the budget, which, added together, equal 100 per cent.

It is stated on reliable authority that the taxation budget—federal, state and municipal—of the average American family at the present time approximates $300 per year, or nearly 10 times the amount of the electrical item in the budget. It would seem to me that in the face of these facts, the so-called "power issue" has been unduly magnified. If the plan of public operation with government assistance of one kind or another is generally put into effect, whatever saving could be made, if any, in the consumers' bills would certainly be offset in whole or substantial part by an increase in taxation, which all citizens must bear, and the practical effect would be a subsidy to this undertaking, the cost of which would be borne by the nation at large.

I call especial attention to the fact that there is now existing a very substantial surplus of power available for the use of the public thruout the country, and that the full development of these water power sources will

create a huge excess of supply, running in some cases as high as 150 per cent or 200 per cent in excess of any reasonable anticipated requirement. The greatest benefit that could be hoped for by the carrying out of any such plan would be the saving of a comparatively small amount each month to the consumer in the bill which he now pays, benefiting him relatively little, but in the aggregate spelling ruin and destruction to the private companies and to their investors.

I subjoin herewith, not for its legal effect, but for the soundness of its economics, the following quotation from the opinion of the Supreme Court of the United States in the case of *Knoxville v. Knoxville Water Company,* 212 U. S. 1, page 18:

> Our social system rests largely upon the sanctity of private property, and that state or community which seeks to invade it will soon discover the error in the disaster which follows. The slight gain to the consumer, which he would obtain from a reduction in the rates charged by public service corporations, is as nothing compared with his share in the ruin which would be brought about by denying to private property its just reward, thus unsettling values and destroying confidence.

I feel that I should direct your attention to the baneful influence of the governmental program upon at least two other major industries, viz., the railroads and the coal industry of the country. The railroads will suffer from serious losses of freight and revenue if all the latent water powers of the country are to be immediately developed. The effect upon the coal companies is obvious. Both of these major industries are already in sore distress, and the result of any such policy cannot but further injure them and further delay recovery. Furthermore, such a policy, if carried out, would necessarily add to unemployment, as it is well known that the amount of labor necessary to handle water power development is far less than that required for steam generation.

The electric industry has gone along whole-heartedly with the Administration's recovery policy. It has shortened its hours of employment without diminution of wages. A large proportion of the industries are upon a five-day week of 40 hours' work. If there are improper practices or abuses of any kind now being carried on, either by holding companies or by operating companies, the industry will welcome an opportunity to negotiate and arrange for their removal.

Whatever the causes, the situation that now exists is of national importance. It is bigger and broader than any particular feature of it. I am confident that if the problem is approached by representatives of all concerned, who are not extremists on the one side or the other, a solution can be found that will in a reasonable time greatly benefit the consuming public, preserve the financial and economic soundness of existing investment and at the same time directly and indirectly put many thousands of unemployed to work in many different industries. It is respectfully submitted that more progress can be made along these lines than by governmental competition or strangulation. I pledge the industry to any cooperative effort along these lines, and I seek similar cooperation on the part of the government.

GOVERNMENT'S PROGRAM OF WATER POWER DEVELOPMENT [2]

The financing of huge government owned plants or separately operated municipally owned systems are equally illogical, unsound and destructive, and any generating and distributing system controlled by the federal government is bound to fail, as far as adequate service and return on capital investment are concerned, and at

[2] From article by Oscar G. Thurlow, Consulting Engineer. *Edison Electric Institute Bulletin.* 3:201-3. June, 1935.

the same time these proposed systems will be injurious to the states in which they are proposed to be located. Actually, the taxpayers in these states are going to be hurt more than the security holders of the existing power companies in these states. The development of new industries will be stagnated and the states' revenues which are in danger of being thrown away in some instances amount to more than the states now receive in their total ad valorem taxes.

Yet in spite of this the states which will be affected are standing aside and disregarding their interests in the present program except for an occasional gesture here and there of a local public service commission. Most of the companies under attack are state-wide institutions which have been built up with the help of state legislatures, public service commissions, various municipal authorities, and the investing public of the states in which they are situated. Very little assistance to their development has been given by federal agencies. Their histories show a local demand for institutions such as they are. It is well recognized by those most zealous in making a success of the federal power program that these companies cannot continue to exist without the support of the local people, and as a result of unending attack of federal bureaucrats the average citizen in a state where the government is active at the present time in a power program would like to see his local utility destroyed, or at least he thinks so.

These local utilities have always played an important part in the upbuilding of local industries, but today as a result of federal attack their credit has been injured to the point where they can be of no assistance to new industries or to the extension of old industries. Prior to the depression, power companies were joining in with industrial companies in building jointly owned steam power plants for the utilization of waste gases and waste heat. The companies have literally hundreds of rural

electrification projects awaiting relief from federal attack. Today no program of this nature could be carried out in any of the areas where the government is active in its power program.

The government power program as it is being carried out today is in no sense coordinated and is in the hands of various agencies. It is striking that of all the projects now under way or authorized, only two, viz., Boulder Dam and the TVA, have secured congressional approval. The remainder have been authorized and financed by the Public Works Administration without congressional sanction.

The Tennessee Valley Authority is constructing the Wheeler Dam and the Norris Dam on the Tennessee River, and has under discussion the early construction of five more dams on the main stem of the river or its tributaries. The Reclamation Service of the Department of the Interior is building Boulder Dam, on the Colorado River, and has started the Grand Coulee project on the Columbia basin in Washington. They also are building the Casper-Alcova project in Wyoming. The Corps of Engineers is constructing the Bonneville Dam on the Columbia River near Portland, Oregon, and the Fort Peck Dam on the headwaters of the Missouri River in Western Montana. Public Works funds have been made available for the Verde project in Central Arizona, the Loup River development and the Platte River development in Nebraska, and the Greenwood County project in South Carolina. These latter developments are to be constructed by local agencies.

The Tennessee Valley development, Boulder Dam, Bonneville Dam, the Grand Coulee project, and the Loup River development are generally recognized as primarily intended for the development of power, altho the benefits to navigation, flood control and irrigation have been advanced by proponents of the government program as justification for the construction of these projects. The

Fort Peck project is intended primarily as a joint flood control and navigation development, but it will ultimately have available as a by-product a tremendous amount of electric energy. The Casper-Alcova Dam and the Platte River project are joint power and irrigation projects.

Other such projects are imminent, the principal one being the development of power in the International Section of the St. Lawrence River. Other projects are proposed on the Cooper-Santee in South Carolina, a series of developments on the Missouri River, and also a series on the Arkansas and Wabash. In addition to the Grand Coulee and Bonneville, eight additional projects are contemplated on the Columbia River.

The total capital investment required for this gigantic program will be more than two and a half billion dollars, of which about one-fourth is to be spent for the developments now under way. These figures do not include cost of transmission and distribution systems. These projects will, when developed in accordance with ultimate plans, produce more than 110 billion kilowatt hours of electric energy annually, of which more than 12 billions will be available from the initial installations.

One hundred and ten billion kilowatt hours annually is a gigantic amount of power. As compared to this figure, the total central station output for the United States for the year 1933 was 79 billion kilowatt hours. The theoretical cost of energy from these projects will vary above a minimum of about one mill per kilowatt hour. As to the actual cost of energy from government owned plants, the experience of the government at Muscle Shoals is significant. Wilson Dam was completed in September, 1925, with an installed capacity of 184,000 kilowatts and a total investment of $47,000,000. Between that time and May 31, 1933, the approximate date on which the TVA Act of 1933 was passed, the fixed charges, operating expense and maintenance of this plant amounted to $20,000,000, and during this period a

total of 2,358,000,000 kilowatt hours was generated. The unit cost of this energy was 8½ mills per kilowatt hour. The government received a total of $4,978,000 for this energy on the basis of fuel replacement value, leaving a deficit of approximately $2,000,000 per year. During this time Wilson Dam played no real useful part in power generation, as it was used more to replace fuel generated energy. This fuel would have cost approximately $643,000 per year, which was in a sense the contribution of miners in the southern coal fields to this project.

Each and every one of the above-named projects, and every proposed unit of these projects, with the exception of the St. Lawrence project, is obsolete today from a power standpoint, and each one is bound to become a white elephant from a national and more particularly from a local standpoint. The St. Lawrence project, on account of the regular flow of the St. Lawrence River, must be utilized largely for electro-chemical and electric furnace industries, which must be located at the site, and to be economical a better international agreement than anything which has been recently proposed must be arranged with Canada. Furthermore, improvement of the St. Lawrence River to a navigable depth of 28 feet, which is a part of this project, will so disturb existing trade channels that this is no time to consider this project.

All of these projects will seriously disturb the broad plans for transmission systems of central station companies which will be affected by them, and many transmission lines now existing will be rendered obsolete by the government program.

Every kilowatt hour which will be produced by any or all of these projects will be surplus, not only from a local, but from a national standpoint. Load conditions in the various areas which will be affected do not justify

the addition of a single kilowatt of capacity, regardless of cost, at the present time.

Considering some of these projects from an economic standpoint, I will take first the Tennessee project.

The existing government owned facilities at Muscle Shoals have a present capacity of 100,000 kilowatt hours. The proposed system, when Norris Dam and Wheeler Dam are completed, will have a capacity, according to testimony of government engineers, of 200,000 kilowatt hours. The cost of this additional capacity at Wheeler Dam and Norris Dam, and the connecting transmission lines, is approximately $80,000,000. The government engineers have testified that power will cost approximately 3 mills per kilowatt hour at the switchboard of their plant, but if proper allowance is made for total capital investment, interest charges, amortization and depreciation, the cost will be approximately 4¾ mills per kilowatt hour.

The Tennessee River flows thru several coal fields which produce high grade coal and competitive steam plants located in the neighborhood of these coal fields will deliver power at Knoxville, Chattanooga and Paducah at from 3½ to 3.9 mills per kilowatt hour.

The Boulder Dam project is rapidly nearing completion and when finished will be capable of delivering a surplus of nearly 5 billion kilowatt hours to the southern California territory, which is more than the companies in that territory have been able to develop as a market in fifty years. The delivery cost of this energy will be approximately .6 mills higher than the cost of producing the same energy in oil-fired steam plants in the Los Angeles area.

The Bonneville project on the Columbia, near Portland, is a tremendous project which will produce around 2¼ billion kilowatt hours from the initial project, and ultimately 7½ billion kilowatt hours annual output. There is practically no local market for an amount of

power such as this, and government engineers are discussing a sale figure of approximately 1.2 mills per kilowatt hour to induce electric furnace operations to locate in that vicinity. Freight rates, cost of assembly and delivery of finished products, will always be a serious handicap to this development, and even tho it is a low-cost project, it cannot compete with projects like the St. Lawrence or large steam plants properly located at tidewater for low cost assembly and delivery of finished products.

Several of these projects are being built in geological measures which are questionable from an engineering and industrial geologist's standpoint, notably, Norris Dam, Bonneville, and Fort Peck. Even if there were a local demand for the power which will be produced at these projects, it is very doubtful whether there is justification in taking the risk which is being taken in their construction.

In this entire program the United States government is now competing against its citizens in the power business in various parts of the country. It has under consideration other projects which will widen the field of such competition. It would seem reasonable to expect that such a vast project would be based on a carefully thought-out economic policy which would have as its principal object the protection of the interests of the three classes of people which will be affected, viz., power consumers, investors, and taxpayers. Even a casual analysis of the program reveals the fact that no such policy exists. No two of the various developments are being handled in the same way, and not one of the developments is economically sound from the interests of these three classes of people. The only consistent aspect of the administrative policy of the government is that in every section of the United States the taxpayer's money is being expended and an attempt is being made

to destroy the private utility industry by unfair competition of the government which it helps to support.

While the utilities have much to fear from this program, they will doubtless survive, as their work is being carried on on sound business principles and the government program is economically unsound. As government expenditures for these projects begin to taper off state authorities will wake up to the fact that the local utilities are among their greatest assets, and I look to the states as political bodies to come to the help of the utilities in the near future. Furthermore, some of the strongest economists and engineers in government service are not believers in government operation of utilities, and their ideas are beginning to filter into federal plans. But for generations to come the utilities are going to have these government owned white elephants in their midst to seriously harass them in their financing and planning for the future.

TENNESSEE VALLEY AUTHORITY[3]

Let us look at the question from the purely financial point of view. Here is a $750,000,000 project that Dr. Morgan says is to be self-liquidating in twenty-five years and upon which interest must be paid. Using the 3 per cent interest rate and a 4 per cent amortization rate, then almost forty millions must be received per annum to cover the fixed charges alone. Using the Hydro-Electric of Ontario as an example it is not unfair to estimate that operating costs will be somewhere between twenty and twenty-five million dollars a year. To this must be added the 5 per cent tax on gross and the various other things the various municipalities are supposed to charge. Taking all these things into considera-

[3] From article by Robert Teviot Livingston, Columbia University. *Taylor Society and the Society of Industrial Engineers. Bulletin.* 1:83-6. January, 1935.

tion and without bothering you with details the annual revenue which must be received will be not less than, let us say, $75,000,000 a year. Applying to this an average price of say a little over a cent a kilowatt hour, we find that over 6,000,000,000 kilowatt hours must be sold, which is substantially the same amount as was sold in the whole area in the year 1932. In other words, the consumption in this territory must be doubled. This 6,000,000,000 kilowatt hours means about 2,000,000 kilowatts capacity, which is one of the many figures that the directors of the TVA have quoted, but *not*, let us note, the figure which corresponds to this $750,000,000 investment.

The question then, in the final analysis, resolves itself into whether with an annual total consumption per residential consumer for all purposes in 1932 of about 4,500 and at a price of about two and a third cents per kilowatt hour, the consumption can be increased to 9,000 tial consumer for all purposes is about $110 per year—the largest use per consumer at the lowest rate per kilowatt hour in the United States. To get this added consumption the electricity must be to all practical purposes given away.

The Tennessee Valley Authority is primarily a water power project. You, as engineers, are familiar with the unreliability of water power. This very Tennessee Valley had a serious water shortage only a few years ago, at which time Muscle Shoals could only have carried a base load of a little over 35,000 kilowatts. Of course, Norris and Joe Wheeler Dams will improve this but the fact remains and it does seem strange to start developing this and other large water powers at a time when the engineering profession has decided that water power is not the cure-all it once was considered. The enormous increase in the efficiencies of steam plants and the still enormous possibilities that remain make the cost of power from steam plants, not only comparable

but cheaper than hydroelectric power except in extraordinary cases, such as Niagara Falls. It is not at all improbable that before the Tennessee Valley Authority plans are completed this will be the most costly hydroelectric development in the United States.

To summarize: This territory consumes the largest amount of electricity per residential consumer of any large area in the United States. With TVA power developed it will be necessary to more than double this consumption. The TVA *must* accomplish this to pay its own way—which its directors claim it will do. I merely ask—how?

I wonder what your idea of a yardstick is? When a scientist uses a yardstick to compare things, he is careful to assure himself that the conditions under which the measurements are made are identical and that any differences which exist are of such a nature as not to affect the measurement or comparison. When the proponents of the TVA use the word yardstick they are equally careful not to mention that the underlying conditions are entirely different.

There is one fundamental difference which makes all comparisons at least difficult if not impossible. Private utilities are rendering an economic service and expect to receive a fair price for the service that they render, thus justifying the investment made and fulfilling the accepted concept of a bargain—both parties to it receiving satisfaction. Governmental agencies, on the other hand, when rendering the same service are not concerned with justifying the investment made but must justify their existence in the political arena.

The great to do made about Tupelo and other TVA municipalities, and their enormous increases of consumption per consumer, is merely so much ballyhoo. There is nothing new, nothing unusual, in people using more if it costs them less. Not until the consumer's bill is actually increased and sufficiently increased to

pay for the increased consumption can the TVA start to point with pride and even then it must wait until the flood of federal funds into the Valley ceases. Let us not forget that a few years ago Europe was an excellent customer of ours—paying for what it bought on money we loaned them. When will we get paid? The situation is similar—a case of artificial stimulation—someone always has to foot the bill.

However, I shall not devote my time to this question which in the final analysis returns to the old problem of social and economic objectives, but I will call your attention to a few concrete examples which I think will show you why, no matter what your social and economic objectives may be, the term "yardstick" is a misnomer used for political purposes and not in a scientific or even correct manner.

There are at least three principal points which make it misleading (to put it charitably) to call the TVA a yardstick. They are:

1. Difference in fixed charges, giving the TVA and municipalities under the TVA not more than 50 per cent of the fixed charges paid by comparable utilities.

2. Difference in taxes, giving at the maximum a TVA tax bill one third of the tax bill paid by private utilities.

3. Difference in powers, methods and accounting costs, giving an unknown and at present unknowable advantage to the TVA.

The difference in fixed charges is very important. The cost of utility service is largely a fixed cost which is largely governed by the interest on the investment. The TVA uses a figure of 3 per cent for this interest while private utilities must on the average pay 6 per cent for their money. This 3 per cent does not represent the stability of the TVA, no, it represents the fact that in back of the government obligations is the sum total of all earning power and everything owned by

every man, woman and child in this whole country, including, mind you, the assets to the tune of sixteen odd billions of the very power companies with which this TVA is to be compared.

Neglecting this obvious injustice for a moment let us inquire into the fixed charges a little further. Except for this two-to-one differential are they otherwise comparable? Hardly! All construction materials are shipped by the railroads at a discount of 33⅓ per cent from the price that the private utilities have to pay. The TVA is to spring full-fledged from the years of experience which the utilities have paid money to acquire, so that the TVA will have no mistakes, no investments that are not prudent. Hence, Muscle Shoals is being written down to one third its cost. Not because it has depreciated! Director Morgan has often said that hydroelectric plants and dams have practically an unlimited life. But because it was built at a time of high prices and could be built for less today! Hence, the TVA says the value of $60,000,000 worth of government securities underlying this plant on the Tennessee River is only about $20,000,000.

How does the bargaining power of the TVA compare with the private utilities? When the TVA wanted to buy cement the price set by the code under another government agency, the NRA, was not low enough so said the TVA—unless this cement is sold to us at our price we will build our own cement plant. A price was finally agreed upon and then in a very nice statement the TVA said, that due to the over-capacity in the cement industry we have decided not to add to this excess and hence we will buy. If this reasoning were applied to the power industry the TVA would find it hard to justify its own existence.

When we consider the individual municipalities the situation is even more interesting. The PWA will lend money to municipalities to build their own distribution

systems and will give 30 per cent as an outright grant which never has to be paid back and upon which no interest will have to be paid.

The question of taxes is, I need hardly remind this audience, at this time an important one. During the past few years the use of electricity per domestic consumer for all purposes has increased greatly and the cost but a small fraction. During the same period the taxes paid per family have increased perhaps enormously and certainly without a corresponding increase of service rendered by the government. The question today is not how to reduce the cost of electricity to the people of the TVA but how to reduce the cost of government to the people of the United States.

The act creating the TVA specifies that it shall pay a tax of 5 per cent of its gross revenue to the state in which the electricity is generated. The power companies pay from 10 to 15 per cent of their gross revenues in the form of taxes and the differential is even greater than appears because while the TVA is to get "less than five mills" per unit the power companies get more and hence the same percentage would yield a greater tax. Obviously the TVA pays no federal income tax—the utilities pay 13¾ per cent of their net income. The TVA pays no taxes to counties, towns and villages, school districts or fire districts—the utilities do. It is true that the TVA allows the municipalities to set up an amount equal to what they would receive from taxes (if they can earn it under TVA rates), and also offers to pay other units sums of money equivalent to the lost taxes. However, in the first place, nothing in the act authorizes them to do so and to use monies in this manner. Also it is doubtful if Congress can legally appropriate public funds for this purpose. The TVA need pay no taxes on any of its property or any operations upon its property. At the present time, it is allow-

ing the state of Tennessee to collect its cigarette tax and its gasoline tax but that is only a favor.

It is important to distinguish between what is done and what may be done, as was so aptly pointed out by Professor Bonbright in his book on holding companies: The important thing isn't whether the TVA pays these taxes or allows them to be collected but whether it must pay them or allow them to be collected.

The loss of taxes is a serious matter to the political subdivisions. They are not prone to cut their expenses to suit their taxes and if a large portion of their taxes are dried at the source it is not only probable but it is certain that other sources of taxes must be tapped to supply the deficiency. This brings me to the third question that I would like to ask. "Is it true that in some of the TVA towns in Mississippi, the tax rate was raised as much as 50 per cent to make up the deficiency caused by the TVA rates and that the Mayor offered to reduce them 25 per cent if the TVA offer was refused?"

Now to take up the third point which makes the yardstick idea ridiculous. As has been said before, in order to be comparable things must be done in the same way. In order to make the various utilities comparable an accounting system was devised that substantially all the utilities use. But the TVA after one and one half years had not submitted an accounting system, so it is difficult to compare. Hence, we are justified in asking many questions, and if the TVA is a yardstick then the TVA must answer.

All private utilities when doing construction jobs have a rather heavy "overhead." It has been said that the government does not have these heavy overhead costs and that:

1. It charges no interest or taxes during construction.

2. Workmen's compensation is carried by an entirely different bureau and that it is not charged to the TVA jobs and that no accurate estimate can be given.

3. The design of dams and hydraulic structures and some of the supervision has been done and is being done by Army Engineers and by the Reclamation Service and that these costs are not allocated to the TVA.

4. That all correspondence, including parcel post, direct mail advertising and promotional printed matter, is franked free of charge.

5. That rent and operating charges of many office buildings is not charged to the TVA, notably the new Federal Building at Chattanooga and the one at Knoxville.

6. That construction camps are not charged to the job but built under the guise of social planning—notably the town of Norris.

7. That clearing of reservoir sites, building of roads and trails, is done by the Civilian Conservation Corps under a separate appropriation and is not charged to the TVA.

8. That municipalities receive general supervision, promotional campaigns free, including the services of TVA and Electric Home and Farm Authority men and rent of offices, free newspaper publicity which would cost millions for regular advertising and engineering services free of charge.

It is obvious, therefore, I believe that the TVA is not a "yardstick" but a "big stick"—a gun being held to the head of the public utilities, and that the attempt is being made to have the people of the United States believe that TVA rates are the rates that are fair. Let me tell you that the comparison is not fair and let me make the statement, unofficially for the industry and repeating a public statement of President Willkie, of the Commonwealth and Southern Corporation, that the privately owned utilities, if offered the same subsidies, rebates and opportunities offered the TVA, will not only meet the TVA rates but will cut them 15 to 30 per cent and at little cost to the taxpayers. There is no guessing about

that, no talking about what will be done when all ten, or 110, dams on the Tennessee River are built, but it will be done immediately by men who know their companies, their territories and their customers and are not "pro-consuls" from anywhere—not even Wisconsin.

And so, in the short compass of time available I have tried to tell you my reactions to this TVA and I have tried to present to you a few of the reasons why I doubt the ultimate success of the TVA. I have said and I repeat:

1. The TVA is unconstitutional, contrary to our stated beliefs and a very real danger to our democracy.

2. It is unsound economics, involving duplication of already existing facilities and loss of billions of dollars in utility investments.

3. As a yardstick it is unscientific, incorrect, and deliberately misleading.

GOVERNMENT COMPETITION WITH ELECTRIC UTILITIES [4]

The socialization of the electric industry thru public operation, by a combination of federal, state and municipal agencies, would make such far-reaching changes in the government's relation to business as to affect the whole pattern of government. It would open the door for government entry into a hundred fields of endeavor now conducted by private citizens. If government enters the electric business on the ground that it is a social necessity, what about food, clothes, shoes, coal, rents, housefurnishings, etc.?

From the standpoint of the amounts out of this income spent by the people, Mr. David Lawrence recently pointed out that taxes take $9,000,000,000; food, $7,650,-

[4] From article by Paul S. Clapp, Vice-President, Columbia Gas and Electric Corporation. *Edison Electric Institute Bulletin.* 3:9, 11. January, 1935.

000,000; rent on homes, $3,600,000,000; clothing, $3,600,000,000; automobiles, $2,900,000,000; home furnishings, $1,800,000,000. The total amount paid by domestic customers for their electric service is $650,000,000 annually, or one-fifteenth of what they pay in taxes.

Let us put it another way. Cost of all government, which is larger than taxes, for public debt is increasing, now amounts to $550 per family per year. The average family pays $33 per year, or less than 9c per day, for electric service. Cost of government continues to mount. During the depression, average price of domestic electric service per unit of service has decreased by 16 per cent.

Electric rates have been much discussed. By this most people mean rates for household uses of electricity. In any fair comparison between the electric rates of publicly operated and privately operated utilities, major attention must be focused on taxes. There are many other points to look at in public operation—incomplete bookkeeping, lower interest money, inadequate amortization, failure to include interest during construction, etc. Taxes alone, however, when taken fully into account will sweep away any promised savings under public operation.

This year the privately operated utility companies will pay $250,000,000 in taxes. This is the aggregate of their federal, state, and local taxes. If these companies were made "tax exempt," as is true in large part of publicly operated utilities, and if this tax saving could be applied to reduction of domestic electric rates—the domestic electric bill of the nation could be reduced at once by 40 per cent.

Government—by this I mean all government—federal, state, and local, can make no greater contribution to stimulation of business recovery and decrease in living costs than by focusing attention on expenditures of government and reduction of taxes.

The National Recovery Act, among its other objectives, declares the following:

To eliminate unfair competitive practices.
To promote the fullest possible utilization of the present productive capacity of industry.

The very opposite of these objectives is being followed by the federal government in its present policy affecting electric power. If these objectives of the National Recovery Act will stimulate business recovery, and we all believe this, is not the power policy of the federal government working in the wrong direction?

Absorption of the present excess plant capacity of privately operated utilities in order that they may again commence construction activity is of major importance in any program for business recovery. Construction expenditures by these utilities amounted to $129,000,000 in 1933. The estimate for 1934 is $100,000,000. The yearly average construction expenditure was $750,000,000 in the 10-year period from 1922 to 1932. These expenditures for a long period of time have been a very important factor in the durable goods market where unemployment is now the largest. The burden of added excess capacities being created by federal funds is seriously retarding recovery in the electric utility field, and will delay the resumption of utility construction programs which can contribute greatly to improvement of business.

That hydroelectric power is cheaper than electricity generated from coal was not determined by the government before they launched into this wholesale program of building hydroelectric dams. Thoroly competent engineering studies, by previous government authorities, have determined that electricity can be generated in the Tennessee Valley cheaper than coal from water. Engineers in the California and northwest areas publicly announced that generation of electricity from fuels is now their most economical source of electric supply.

Enormous engineering progress has been made in recent years in the art of electric power production by fuels. Operating costs have been terrifically reduced. Steam power houses require less investment per kilowatt of capacity; they can be initially built to more nearly meet immediate requirements, and readily expanded as demand increases. They are located at points close to the load, and do not require long and expensive transmission lines to get the power to market. And cost of power delivered at the customer's premises is what must be considered.

Sweeping aside the questions of the soundness of the government going into the power business; of the policy of its needlessly duplicating existing facilities, it has not determined that its method of power production is the most economical.

The real necessity for the federal government to go into the electric business in order to determine what fair rates for service shall be, can be seriously challenged. Anyone at all familiar with the work of the state regulatory commissions and their staffs and regulation by municipalities, has high respect for the vigilance they exercise in safeguarding the public interest. All the elements of cost in rendering electric service are matters of public record. If public relation has failed, how can the much more difficult job of public operation succeed?

GOVERNMENT AND THE PUBLIC UTILITIES [5]

Municipal ownership is as old as the business itself. In the fifty odd years of the existence of the electric light and power industry in the United States there have been established altogether some 3,900 municipal plants. More than half of these have been abandoned and only about

[5] From address by Wendell L. Willkie, President, Commonwealth and Southern Corporation, New York, January 21, 1935. p.2-9.

1800 remain. The percentage of mortality in the last fifteen to twenty years has been higher. Of the 437 municipal generating plants established between 1920 and 1930, 323 or 74 per cent had been sold or abandoned by 1932. These municipal plants thruout their history have been free from taxation yet today the average rate for all classes of service by municipal plants is 15 per cent higher than the rate for electric energy from electric utilities privately owned. It is true that they have favored the domestic at the expense of the industrial consumer and in the isolated instances which are widely advertised of the low municipal domestic rates in practically all instances these are made possible by a subsidy upon the industrial user.

Interruptions of service in municipal plants are frequent and inevitable except where such municipal plants are connected with the coordinated transmission systems of privately owned utility companies. The use of electric energy, with few exceptions, by customers of municipal plants is substantially less than that of customers of private plants. Few municipalities have done any promotional work in the sale of appliances and the extension of unprofitable rural lines by such plants is almost unknown. They pay no federal, state, county or municipal taxes which equal 15 per cent of the income of the privately owned utility companies. By reason of such exemption from taxes every citizen of the United States whether or not a resident of the particular cities in which such municipal plants are located, is required to pay higher taxes. In municipalities where municipal plants are operated, particularly where the rates are as low as those of private utilities, the tax rate is materially higher than in many municipalities where privately owned utilities operate. For instance, take the much heralded Tacoma, Washington.

A taxpayer owning property of a valuation of $5,000 pays taxes in Tacoma of $133 per year while in Chatta-

nooga, Tennessee, the owner of a comparable property pays $96.60 per year in taxes. Let me give you some other comparable figures on a $5,000 valuation basis:

Seattle (municipal)	$170
Kansas City, Kans. (municipal)	123
Atlanta (private)	108
Nashville (private)	76

Those, however, who seek to lure us along the pathway of public ownership of public utilities, when these arguments are presented to them, answer that the reason for this showing on the part of municipal electric plants is because they are disconnected operations. That we should establish regional large scale government power development such as the Ontario Hydro Commission operation. As our distinguished fellow townsman, Governor Al Smith, would say "Let's look at the record."

Ontario, because of its favorable location with respect to Niagara Falls and the even flowing rivers of Northeastern Canada has the most favorable situation on the American continent for the development of low cost hydroelectric energy immediately adjacent to market. This enterprise was commenced in the early years of the century as a result of arguments strikingly similar to those heard in the United States of today. Its proponents asserted that it would be necessary to have a public power authority to insure the bringing of cheap hydroelectric power to the people. The public authority was not to supplant private enterprise but merely to serve as the now familiar yardstick, to see that private companies kept their prices within reason. The social benefits of the plan were those which were stressed, and according to its founders, the building of a huge political organization was not even considered. Another advantage which these men claimed as their followers claim in the United States today for the public undertaking was that the municipalities would soon own the

electric facilities debt free, and thus emerge from "interest-slavery" to private corporations. The provincial authorities would at all times have control over the disbursement and receipt of funds, and the Hydro Commission would serve only as a trustee for the municipalities, taking "surplus" power from Niagara Falls and making it available at the city gates at cost.

Indeed, if the names were changed the publicity attending the beginnings of the Ontario hydro project could easily be mistaken for today's discussions of similar projects in the United States. There were the same innuendoes tending to discredit the accomplishment of privately owned utilities, the same flattery of the communities to be served, the same assumption of virtue as champions of the people and the same extravagant promises as to cost.

Let us see, based on the Ontario experience, how likely these claims are to bear the test of time. It did not remain a mere yardstick for the measurement of private operation. Its history is one of continuous encroachment upon the field of private enterprise. Starting in 1910, supplying power to seven municipalities, it has bought out practically the entire privately owned utility industry in Ontario under the forced threat of public competition if such sales were not made. Every major city is now served by the Hydro and today it serves 85 per cent of the total customers in the province.

It also was to be a fine example of institutional democracy free from the evil effects of political manipulation. As Dr. Arthur E. Morgan, Chairman of the TVA has said:

> The very life of the American nation is threatened by the custom of political patronage. The more widely public activities are extended, and the more government has to do with the management of our lives, the more sinister is this evil force.

Despite the predictions that the Hydro would be free from such politics, the political history of Ontario in the twentieth century could be written in the terms of the history of Hydro. In 1903, the party out of office in need of a "radical" appeal to the voters, adopted the Hydro issue as its campaign platform and rode to power on this issue. With the exception of a brief period between 1921-1924, this party remained in control until last year, when the election turned largely on the issue of Hydro. The only record of a defeat to the Hydro in all these years was the victory of its opponents in 1921, with the subsequent blocking of a grandiose plan of a publicly owned railway enterprise.

What about the self-liquidating feature? Hardly a speech in advocacy of our presently proposed governmental operations is made but what we are reminded that the program will be self-liquidating in twenty-five years. The original amortization period of the Ontario project was to be thirty years. At the end of this time the electric facilities would belong to the people free of debt. The program has been in effect just for that long. Is it free of debt? The Hydro Commission itself has liabilities of $266,000,000 against undepreciated assets of $283,000,000. As to the municipalities, their liabilities now total $50,000,000 against undepreciated assets of $90,000,000. Thus the whole system undepreciated, is on the books at $374,000,000 and thirty years after the founding of the Hydro it has outstanding obligations of $316,000,000. These liabilities exceed $500 per electric customer, on which the debt service is over $30 per annum. Is this the much heralded freedom from "interest-slavery"?

Let us compare the original picture of this unassuming agent for the municipalities of Ontario with the picture of the Commission as it is today, a super power company with an indebtedness equal to 40 per cent of the total provincial debt; a tremendous political power,

with the potentiality of vitally affecting the welfare of the people of Ontario; a public agency which has reached far out from its original function, and driven virtually all private electric companies from the province, as well as interesting itself in electric railways, gas and paper manufacturing.

But perhaps some of you would be willing to forget the inconsistencies of the prediction as compared with the fulfillment if the result had been to produce cheaper electric energy for the people. During the early years of the Hydro, power was delivered to Toronto at a cost of fifteen dollars a horsepower year. At this time, the Hydro was purchasing its power from privately owned generating plants, at extremely reasonable rates, but, obsessed by the notion that a public plant would be cheaper, it commenced the building of its own plant at Niagara Falls in 1918. This plant, estimated to cost some $25,000,000, is now on the books at nearly $80,000,000 and the unparalleled waste and inefficiency which surrounded its construction has resulted in an increase in cost to municipalities of more than one hundred per cent. As a result, the cost of power delivered to Ontario in 1933 was over $30 a horsepower year, as against the initial cost of $15.

To complicate this already unsatisfactory situation, the Hydro far overestimated the demand for power, and has contracted for the delivery of some 300,000 additional horsepower. Under the terms of the contract it must take this power whether it has any use for it or not, with the result that it is forced to secure additional load, whether or not it be profitable business. It is selling power in some instances, at approximately a third of the actual cost of this power to the Commission. It is therefore not surprising the recently appointed chairman of the Ontario Hydro-Electric Commission, Mr. Stewart Lyon, announced that the power supplied to municipalities and other customers for the year 1933 cost

$4,221,000 more than the Commission received for it. Who is going to pay that four million loss if not the citizens of Ontario? They will either be taxed or else the cost of electricity will be increased to a still greater extent but no matter which way the wind blows, these losses must and will be paid for by the people.

In addition to deficits of over $2,000,000 in 1932 and over $4,200,000 in 1933 by the Hydro, the municipalities which distributed this energy had a deficit in the year 1933 of $621,000, and 20 per cent of all of the municipal bonds in the province of Ontario are in default, while practically none of the bonds of the municipalities in the Province of Quebec where there is private operation are in default.

Without boring you with the details of the figures, I have taken the average domestic rates of Ontario municipalities which receive their power from the Hydro and have applied the differentials in interest, taxes and depreciation, thus reducing the two rates to an exactly comparable basis and find that the domestic rate of the southern operating companies of The Commonwealth and Southern Corporation to be substantially lower.

Let me give you just one additional fact about this operation—Hamilton, Ontario, is of comparable size to Chattanooga, Tennessee.

If you lived in Chattanooga, Tenn., and owned a home assessed at $5,000 you would pay approximately $96.60 per year in taxes. If you lived in Hamilton, Ontario, and owned a home of like value you would pay taxes of $185 per year. This differential is not inherent in the two countries because if you lived in Quebec where there is private operation and owned a similar piece of property, your taxes would be comparable to those in Chattanooga.

Let's look for the moment at the deadly parallel of government and privately operated railroads in Canada.

Do you realize that the publicly owned and privately owned railways of Canada make exactly the same charges for the same service and operate side by side under precisely the same conditions?

Do you realize that during the nine years 1923 to 1931 the Canadian National Railways controlled by the government, failed by no less than $456,000,000 to earn the interest on its outstanding obligations, while during the same period the Canadian Pacific Railway, privately owned and operated, paid interest and dividends of over $401,000,000?

The taxpayers of Canada paid the same rates for the service of the government railway system as they would have if it had been privately owned, and also paid in taxes almost half a billion dollars solely for the privilege of saying that they owned the Canadian National Railways.

With these records of municipal operation and the record of the Ontario Hydro Commission and railroad operation both so close at hand and the facts with reference to each so readily ascertainable, is it wise, is it prudent or fair to place a capital levy upon the investors in public utilities in the United States in order to bring about results which are so clearly demonstrable to be disadvantageous?

MUNICIPAL POWER AND LIGHT PLANT IN NEW YORK[6]

We are opposed to the establishment of municipal power plants as a matter of principle, and we are opposed to the establishment of a so-called "yardstick plant" in New York City because the optimistic estimates of its

[6] Statement in opposition to the establishment of a municipal power and light plant in New York City and to the creation of muncipal power authorities, in behalf of New York civic organizations, presented to the Senate Committee on The Affairs of Cities and the Assembly Committee on Public Service at Albany, March 24, 1936. Chamber of Commerce of the State of New York. p.7-11.

proponents cannot be realized in fact, and the use of the term "yardstick" is a misnomer.

We oppose this plan in principle, first of all, because we oppose government competition with private business. The sovereign functions of government today, as for ages past, are national defense, protection of life and property, the passing of laws, and the administration of justice. These sovereign functions, experience has taught us, can be performed with safety only thru the machinery of federal, state and municipal governmental units.

When, however, government undertakes other functions such as the operation of public utilities or private business, it exchanges the role of sovereign for that of proprietor, but it cannot change its political machinery to the machinery of business, nor even adapt it to the economic field. The differences are too fundamental and irreconcilable.

When government enters business, politics enters too—and stays. Politics in this sense is synonymous with inefficiency and extravagance. Confusing and intermingling the roles of sovereign and proprietor, government carries on its business operations without regard to profit and loss, and taxes the public, including its non-governmental competitors, to make up the losses of incompetence, inertia and bad judgment, or subsidizes its own utility operations with free services such as having other city officials collect the bills, or by exemption from the payment of certain taxes which the private competitor must bear, as is proposed for New York City. Many normal operating or overhead charges, such as insurance, depreciation, obsolescence, financing costs, credit losses, and so forth, are also evaded by government in business. Other disadvantages of the entrance of government into business are the contraction of the tax base and the enlargement of the inflexible, unprogressive bureaucracy.

We oppose the construction of competing power plants, whether public or private, because both reason and experience show clearly that competition as a means of regulating public utilities and obtaining rate reductions is thoroly unsound. That fact is undeniable where existing plant capacity is adequate for the area served and where available resources are sufficient to assure current growth to meet increasing demand. That lesson was amply demonstrated by the economic waste and the losses to investors which resulted from free-for-all competition in the early stages of the electrical industry. The unavoidable waste and loss inherent in such a program exists whether the surplus competition arises out of publicly owned or privately owned enterprises. It should not be necessary to teach this generation the same bitter lesson by experience.

Even a modern "liberal" ought to be able to recognize the economic waste which must result from building another power plant and distributing system where they are already adequate and thus throw an equal amount of investment into idleness. A New Deal economist ought to be able to realize that when two such systems are competing for the same customers the mere presence of a competitor reduces the ability of either to expand, to reduce its rates, to make a profit and even to pay taxes. Indeed, the economic loss growing out of duplication and destruction of capital values is many times the amount of capital invested in the competing plant. Its nuisance value is thus much greater than its real value.

Need we say more to indicate to you that the electric power business is naturally a monopoly?

Since monopolies affected with a public interest, as this one is, must be controlled, and since neither competition nor public operation is sound, the best method of control is by vigorous public regulation.

For we are among those who deny most emphatically the glib assertion that public regulation has failed.

On the contrary, we believe that the record of our electric public utilities in the past fifty years, most of that time under public regulation, reveals the colossal pioneering achievement of transforming what was little more than a laboratory toy into an indispensable adjunct of public, private, commercial and industrial life. To deprive a modern community of its electric power and light would be only less disastrous than cutting off the supply of water, and equivalent to blinding and paralyzing a human being.

There is no parallel achievement to the credit of municipal operation, and you know that, because of the way government operation palsies initiative and dampens imagination, there is no likelihood that there will be a comparable achievement, nor even a continuation of the present progress under municipal operation.

This great improvement in the art of living has, furthermore, been given to us at a decreasing price in a period when the general price trend of practically every other necessity of life, including the very materials and labor used in generating and distributing electricity, was sharply upward, and during a period when taxation of utilities has been approaching the point of confiscation.

The record in New York City shows that during approximately the first half of this period the old flat rates were reduced from a level of around 20 cents per kilowatt hour to around 10 cents, and that during the last 25 years or so under the sliding scales of rates, with or without a demand charge, the reduction has been on an average about 2 per cent a year.

The record of American utility companies has by no means been perfect. There have been errors of judgment, speculative abuses, corruption, mismanagement and extortionate rates. We freely admit these facts of human fallibility and weakness and we have no desire to condone or excuse them, but we do say to the muni-

cipalities, asking that they be given the additional power proposed in this bill to enter into competition with the utilities, let that one among them which in the past fifty years has been without the sins of corruption, waste, extravagance, political mismanagement and extortionate taxation, cast the first stone at the utilities.

If that rule prevails, New York City with its own sorry record of incompetence, corruption, profligacy, and downright dumbness in governmental as well as business affairs, is hardly in a position to pick up a pebble to throw at its electric utility companies, let alone demand the right to dump some forty-five to sixty-five more millions of dollars into a totally unnecessary lighting plant after its subway, market and ferry failures.

Nor is there any ground for assuming that the end of rate reductions under public regulation has been reached. You know that there is pending before the Public Service Commission now an offer from the electric companies to put into effect in New York City a profit-sharing schedule of rates conditioned upon the grant of certain powers by the legislature, which do not appear unreasonable.

We believe sincerely and thoroly that the greatest chance of obtaining economically sound reductions and avoiding wholesale economic waste lies in putting such profit-sharing rates into effect rather than thru municipal competition. We ask you to clear the way for and have a thoro trial of such rate schedules before you even consider authorizing the kind of municipal competition now proposed.

We don't need to go outside of New York City for examples of what happens when government goes into private business. The history of our municipal business ventures is full of glowing predictions, drab performances and unending deficits saddled glibly off onto the general taxpayer in the name of "social benefits," or hidden in the welter of an obscure budget.

POPULAR MISUNDERSTANDINGS ABOUT THE POWER INDUSTRY[1]

How is it that while we are losing our homes in the depression, you continue to make large dividends?

Our company is earning this year somewhat less than 7½ per cent on the cost of our property. This would not be considered large for industrial earnings in normal times, but is, of course, much more than other industries are earning today. And the reason is this: Other industries in good times earn large returns and lay up big surpluses that carry them over poor times. If they did not, they would be "bust" today, but the law does not permit us to do the same. It says, "You are a protected monopoly supplying a necessity which people must buy whether times are good or bad, and, therefore, you must never have high earnings," so in good times our earnings are not big like other industries. It follows, of course, that if we can have only moderate earnings in good times, we must continue to have them in poor times as well. Otherwise, no one would be willing to invest their money in power houses and pole lines, and it is essential that they should be willing to do so, as otherwise, how could we build new lines and power houses which a growing city constantly calls for? Our dividends should be and are liberal, but we always, over a period of years, call on our stockholders for more new money than we give them in dividends. Consequently we have to maintain our earnings even if we would like to drop them, which we do not.

The public pictures big earnings rolling into the treasury of a prosperous company and being distributed as dividends to rich people who could just as well get along with less, but this is not the case. The true picture

[1] From address of Samuel Ferguson, President, Hartford Electric Light Company. p.3-7. The Author. Hartford, Conn. October 20, 1933.

is like this: There are 12,000 people who have turned over their savings to the company to be used in building plant and lines to serve the community. Among these 12,000 there are, of course, some rich people who own many shares, but most of them are wage earners and people of small means. The dividends they receive represent the wages paid them for the service they have rendered in building the system which serves the community; and it will, I think, surprise you to know the amount of these wages. The average amount of our stockholders' wage is less than $4 per week. When you think of $2,000,000 distributed as dividends it seems tremendous; but this is divided among 12,000 stockholders with the result that they receive on the average only $4 per week for making possible our electric service, and it does not seem unreasonable; and to reduce this wage would create much hardship among thousands who are dependent upon it for their daily bread.

Is it not true that United States companies charge an average price of 6 cents for domestic use when the Hydro Commission in Canada can furnish this service in 250 cities, towns and villages for an average of less than 2 cents per kilowatt hour?

This is true and to the man on the street, it looks like robbery. The answer often given of the advantage of freedom from taxes and the use of an unique water power, while influencing the situation, is by no means the explanation.

The true explanation lies in the difference in average use, and effect of usage in reducing distribution cost. In the United States, the average house uses about 600 kilowatt hours; in Canada, over 2000. This reduces all fixed costs by more than two-thirds if figured on a "per kilowatt hour" basis. This reduction, combined with the elimination of tax and coal bills and a lower wage level, gives the complete explanation of the difference between

Canadian and United States costs without having to assume any robbery in addition.

Why is the average domestic use in the United States so low as compared with the Canadian figure?

The answer is because of the relatively high price in the United States.

You will note that the answer to this question, combined with that to the last question makes a vicious circle of the worst variety: That is:

Cost high because of small use;
Use small because of high price.

It will not satisfy the United States public to excuse and explain the high price, no matter how valid is the reason. Some way must be found to break the vicious circle. It was broken in Canada 15 years ago by the simple expedient of making a very low price (one which was far below the then cost) and making up the deficits from industrial users and by taxes for the period required to obtain the larger use thru the stimulus of the low price.

For instance, in 1915 the average annual revenue per customer was only $8 (hardly more than enough to pay for the meter and billing alone.) Last year the average was $30 per customer. It is obvious that if $30 per year now received represents cost, as is required by statute, then $8 per year was far below cost, as the difference in the cost between small and large use is negligible when there are no coal bills or other direct "per kilowatt hour" costs.

This was a simple and effective way to break the circle, and one which I should be glad to adopt if only I could find some one willing to carry the bag thru the lean years that necessarily must elapse while the load is coming up. Not finding any one so disposed, we must do the next best thing and offer rates which are reason-

able for liberal use. By reasonable I mean that a completely electrified house should be offered a rate of 2 cents or less for the entire requirements of light, cooking, refrigeration, hot water, etc.

A good illustration of the beneficial effect of high usage at low prices is in the revenue received from our employees as a group.

The employee rate is a 33⅓ per cent discount from the regular schedules which are of a promotional type. This encourages liberal usage, and as a result, the average monthly payments of the group amount to $3.83. This is 25 per cent more than the general average of all customers, and this in spite of (or because of) the fact that as a group the employees earn a rate in their homes of 1.98 cents per kilowatt hour as compared to a general average of 4.5 cents.

In the case of this employee group, we followed 10 years ago exactly the Canadian plan of making a price below the cost for the then small use, trusting to the stimulant of low price to bring up the usage to a profitable figure. We could do this because the group was relatively small, and the losses would not be felt on the other classes of business, but it is an impractical course to follow with all customers as the losses would be too heavy to be absorbed by other classes, and if not so absorbed would impair the company's ability to pay its interest and dividend obligations during the development period.

Does not the Federal Trade Investigation disclose millions of dollars of write-up of values in utility company capitalizations, and do not these increase the prices paid by the consumer?

The investigation does show write-ups of large amounts but not in the books of the operating utilities. They occur generally in the books of the holding com-

panies and, therefore, do not affect the plant values on which rates are based.

The holding company and investment trust capitalization and financing has—in many cases where their securities have been sold for cash—been absolutely unjustifiable and an imposition on the investing public. As a consequence, those who bought such securities or who traded sound underlying utility securities for them have suffered grievously but the customers to date have not suffered at all. On the contrary, they have been the gainers because of the fact that the inflated balloons of the top companies could only survive provided there was a continued and rapid increase in business; and to produce this increase, great effort has been expended in developing new uses of electricity and in many cases rates have been materially lowered to promote this growth which extended somewhat the time before the balloons were punctured. From both of these aspects the consumers gained. My sympathy is entirely with the investor, but the consuming public, sensing a wrong, erroneously feels that he is the one that is hurt.

Why do not our legislators favor a change in tax laws that would remove the public utility companies from the favorable position which they hold under the present tax set-up?

Do you really believe that our tax position is favorable? I only wish it were. Taxes are the greatest single obstacle to material rate reductions. Everyone should know as well as I that the only dollars we have with which to pay taxes are the ones given us in payment of monthly bills, and believe me, the tax collector is after those dollars good and plenty. But it is not the company that suffers—it is our customers who do the suffering, as we have to collect from them in every bill almost 20 per cent more than we would otherwise have to collect

to cover the cost of service, including our stockholders' wages.

In other words, every time a customer pays us a dollar, he receives approximately 85 cents' worth of electric service and a 15-cent tax bill. Do you know any other business that has to hand over 15 per cent of its gross receipts? I do not. And I see no prospect of relief except thru the influence of the public when roused in bringing home to federal, state and municipal authorities the idea that their re-election depends on how much they reduce expenditures, not how much they spend. Defeat the spenders a few times and the politicians will right-about-face, just as they have done when they realized that their jobs did not depend on continuing to vote dry. Get back to reasonable budgets and the tax load will be wonderfully lightened.

EQUITABLE THEORY OF GOVERNMENTAL OWNERSHIP AND OPERATION [8]

The most obvious of the inequitable charges on the general taxpayer are those costs of governmental agencies that have entered into revenue-producing activities where the charges made to consumers are insufficient to meet the costs of operation. Whether these be postal services, water works, power and light, waterways, barge lines, or other forms of governmental ownership and operation, it is a rare case where the basis of revenue charges is sufficient to meet all proper costs. Almost universally, the general taxpayer is forced to contribute in some degree toward the making up of deficit charges, which become actual subsidies or gifts to the users of a service for which insufficient charges are being made.

Where governmental agencies are engaged in the operation of revenue-producing services. the minimum

[8] From article by Frederick H. McDonald, Consulting Engineer, Atlanta, Georgia. *Civil Engineering.* 4:119-23. March, 1934.

selling basis of the services mandatorially should be sufficient to pay all costs, including operating costs, interest, refunding or depreciation charges, and taxes. Only such a conception could be sustained as an equitable theory of governmental ownership or operation.

Actually, revenue-producing services provided by governmental or state subdivisions are not truly governmental functions. The benefit is not general in nature; it is not usable as a benefit by all taxpayers. The benefit is specific and is confined solely to the consumers, who in all equity should pay at least the full cost of service.

Even in the extreme case where every citizen is a user, the benefit still would not be general, but would be specific in that some would be greater users than others. To the extent that the full cost is not met by charges directly to consumers, the deficit would be made up by tax costs on the general community. In this case, the larger the user, the greater the individual donation at the expense of both the average user and the general taxpayer.

Common practice, as in sewer and paving assessments, already has recognized the equity of some allocation of charges in proportion to benefit. But by local legislation the bureaucratic tendency of government has extended itself, unchallenged by constitutional right, to other lines, which are specific and are limited in their benefits to individual users. It is in this field that governmental operation either can be curtailed to the benefit of the general taxpayer or can be made the basis of a fair allocation of all cost charges directly to the consumer of such specific services.

It would seem to be a sustainably equitable theory that a self-supporting rate structure can be made a judicially mandatory condition of the governmental ownership and operation of revenue-producing facilities. Once this principle, voiding the legislative encroachment on our presumed constitutionally vested rights of indi-

vidual justice, is established as a basis of governmental operation, obviously beneficial results will follow. It would seem an equitable assumption that any non-users of service from a government-operated facility, who are paying taxes to make up deficit operating charges, could apply for relief in any court of equity and that justice would require that the local rate structure be made sufficient so that those who use the service would support the full cost of operation, while those who do not or cannot use it would be freed from any burden of its costs. It would seem reasonable that not only a theory, but the mandatory need as well be developed for governmental operations to be self-supporting by direct revenue from those using the services of the governmentally owned facilities.

Additionally, with all proper charges included in both forms of operation, the great argument of private industry as to the inefficiency and ineffectiveness of governmental operations will receive its full and ample test. Unless private enterprise prove itself more efficient and more effective, government under these conditions should compete with it.

From these considerations, based on the fairness of the allocation of the cost of a growing trend for ownership by government, principles should be developed which will lead to a clear conception of the avenues and the kinds of things in which government equitably may participate. If this can be done, some of the enveloping processes of government may be limited, leaving that much more to the free functioning of the individual.

This is particularly important considering the growing trend found in the central government today to direct tax revenues into business channels. So far these have been largely in the form of loans. Yet, almost without exception, with every loan has gone some restrictive condition as to supervision, or as to the right of approval of actions of the borrowers. This amounts virtually to

the beginning of some form of control of the actions of the borrower and of his business. By a failure to meet these loan requirements as to payment of principal and interest, the government will become a total or part owner in the business affected. This possibility is without regard to and beyond that of the accompanying tendency of the government itself to conduct the business operations.

The largest of all the fields of governmental operation, actual and threatened at the moment, is the field of power production. Not only has the national government started in this business on a scale that until recently would have been thought unlikely, but in numerous local communities thruout the land the question of public power production has become a matter for discussion, and in numerous discussions, a major issue.

Much of this governmental trend to enter the power business can be said to be political. Underlying any general political movement, however, there must be some evidence of public thought or desire on which any achieved political move must be based. Much of this movement at present might be said to be a by-product of previous attitudes of power companies toward the public, which have resulted in a demagogically fired conviction that all the public is in all cases exploited for the benefit of the operators of these utilities. So much has this been a prevalent and accepted premise that the national political proposal to develop publicly owned power-producing and selling facilities, as a yardstick or measure of the rate structure by which private ownership should operate and distribute its product, has been widely accepted.

Men of standing, leaders in their communities and in the nation, propose to substitute a form of governmental ownership for the present one of complete governmental regulation by state commissions, because the latter has in their estimation failed to produce desired results under

a scope and breadth of regulatory control that could not be exceeded, as far as the capacity to install proper rates is concerned, even by outright ownership.

Presumably to demonstrate the politically pictured ineffectiveness of local governmental regulation by another political yardstick for rate structures, the federal government has gone, and is going extensively into the business of power production. In all these cases, the areas surrounding these large reservoirs of promised new primary power are now adequately served by private investment in power-producing facilities and distribution lines, operating under rate structures stipulated by local governmental regulatory bodies as fair and reasonable, and which have been sufficiently acceptable to industry to have provided for the creation of an industrial capacity in this country actually in excess of the nation's developed capacity to consume.

In each of these areas, the production of federally owned power threatens either to be superimposed on the existing public-utility capacity, thus constituting a waste of taxpayers' money; or it threatens to invade by appropriation the field of an adequately supplied market, and in the process to destroy at least the equity which private enterprise has in its generating equipment. Under what is known of present planned procedure, there does not seem any escape from the result of either of these destructive courses; for even the assumption, for instance in the Tennessee Valley, that an effective amount of new industries and new consumers can be brought quickly to the area, must carry with it the destructive effect either of adding a new industrial capacity to the already overdeveloped capacity of the nation, or of moving existing industrial capacity from other sections of the country and creating all the dislocating effects and local hardships of such movement.

In fairness to those in the Tennessee Valley Authority who, with conscientious effort, are probably putting

their hearts and the results of a life work of experience and broad vision into the Tennessee Valley program, and also in fairness to the justifiable private enterprises now in this area, it seems drastically necessary that some alternative procedure should be advanced that would have a better chance of achieving constructive use of this power as against the hazard of the destructive appropriation of markets. If this can be done it would be a public duty to crystallize and to support such a program.

When uneconomic duplication in railroad operations is eliminated, a density of combined traffic will result that will make the electrification of every mile of railroad in the United States imperative for mere economy's sake. Muscle Shoals can be developed and used as the first generating unit of a nationally inter-connected power system, based on this unit and on Boulder Canyon, the Columbia River, and the St. Lawrence River as run-of the-stream sources of primary power. A large consumer could be a nationally unified, non-competitive railroad system, electrically operated to give the lowest transportation costs in history. The actual function of power companies can be confined to supplying stand-by power, and to the intensified distribution and sale, for every use, of power thruout the nation. The resulting expenditure of billions of dollars in the production and installation of the necessary electrical railroad equipment alone would react in every avenue of business and would create one of those continuous new industrial activities sought by all to pull this country out of this depression, as the railroad construction era, the automobile, and other timely activities seemed to pull us out of preceding depressions. By power unification, a constructive, equitable, and sound solution for the problem of Muscle Shoals and of all the nationally owned power sites rises above local problems and creates a national opportunity.

If the government, instead of being competitive with business, would use its influence and unlimited resources

in the aiding or subsidizing of business to accelerate general-welfare benefits more rapidly than private capital can afford, then a constructive result might be anticipated, as against an almost certainly destructive one.

In effect the government could say to the power companies:

> Organize your properties for a coordinated, unified, national network of distribution lines with the least costly and the most efficient operating structure. We will develop the basic primary horsepower necessary; you will use your present installed capacity as a stand-by, and to make up the difference between what we can produce economically and what is necessary. Until such time as with our cooperative direction, the use of power becomes sufficiently general to develop for you a reduction of operating costs, giving you a basis for profit, we will absorb the losses caused by installing now a promotional scale of nationally uniform rates, so that every domestic consumer in the land in five years can buy power at an average rate of two cents per kilowatt hour or less. To accomplish this we will deliver primary power to you at a cost that will make your interim operations possible, even if we have to deliver it free of cost and subsidize some of your operations under, however, the lowest possible agreed basis of fair return on your justifiable investment.

This would mean that the Tennessee, the Colorado, the Columbia, and the St. Lawrence rivers would be developed according to some sane measure of nationally developed need, and the power companies would become distributors and intensive sellers of power. The public at large, while perhaps contributing the tax costs in a period of deficit operation, would know that it was on a temporary basis; that there was no destruction of private enterprise; that a definite and sound objective was being sought; and that eventually all the nation, instead of just a few local consumers, would be better off economically, financially, and socially.

To make effective the operation of such a large and complicated business structure as the production, the distribution, and the sale of power, the genius, the energy, the initiative, and the rewards of private enterprise are needed. Without the constant effort to earn dividends, it is hardly conceivable that private or public

enterprise would have made the advances in scientific and efficient power production and distribution which have enabled this industry to compete with, and supplant all other forms of light and many forms of power. This factor of efficient management must be maintained. Only in private initiative and enterprise can it be found, and only thru the rewards and discipline of private enterprise can it be attracted and made effective. Yet, on the other hand, there is the claim of exploitation by the public; and the demand by the public that government enter the power business in order to reduce taxes. Behind both these viewpoints lies the latent thought that under public ownership the public will be protected. Many seem to prefer to hazard technical advance and to risk almost certain minimum betterment or even loss in favor of this assumption.

It would not take much time to make an assay of the good points of both private and public ownership, to see if the best of each could not be salvaged for the pooling of these common benefits in a new, mutually profitable, and useful line of procedure. Private initiative does not operate at its most effective level under full public control, and the public does not feel free from exploitation if it does not have ownership. It is therefore suggested that for local operation both these needs be considered as a new basis for procedure; that private enterprise be looked to for management; and that public ownership carry participating managerial functions as to rate structures and the scope of operations, with both private enterprise and the people sharing in ownership and in resulting profits.

Concretely, I recommend the development of what might be called state mutual power companies, on a state-limited basis. To pool into aggregates of useful capital the now marginal benefits of increasingly small rate reductions to the individual consumer, the investment now held by private ownership would gradually

be amortized thru payments from existing rate structures maintained at promotionally tenable levels over long future periods. As this amortization of present investment progressed, the resulting percentage of net revenue could be diverted as new income to the people of the state. The final objective would be to keep private management, maintaining its interest, willingness, and effectiveness by a controlling percentage of ownership, the state to have ample voice in operation and rates and to hold the remaining percentage of ownership. Net profits, above investment amortization needs, would be divided equally between the state and private ownership right from the start. Thus could be combined public ownership and private management, with a division of profits, for local situations. While on private enterprise and on productive business effort have rested the very foundations of the supporting revenue of our present form of government, a large section of the population, directed by sane and thoughtful people, apparently is convinced that only thru the arm of government can desired results be safely achieved. An opposing large section of the population seems to think that only thru the arm of private enterprise can progress be ensured. Yet these two arms are of the same people, and they are not different in any respect except as to the method of their working.

This now headless body of the people with its two powerful outreaching arms, flailing each other in hopeless opposition, needs some intelligence to guide and to direct these efforts into cooperative, constructive, integrated activity for the good of the whole body, the mass of the people. It would seem a sane and a proper thing if some judicial group, or unbiased authority, including the representatives of both government activities and of private industry, were formed for the purpose of drawing from each the best, and of welding into a new plan the details of an economic procedure based on the

common interest of all the people. The engineers of the nation are versed in hard fact, trained to a detached, judicious weighing of pertinent and tenable influences, and conceded to have an insight and integrity of viewpoint above pandering to other than sound facts and influences. It would seem that they might very well be large contributors to such a judicial effort designed for the hearing, for the searching out, and for the determination of facts to chart a course for the operation of the business of the nation in a way that would not sacrifice honest investment and enterprise, would protect the public, but which would be beyond vitiation by political influence.

It seems reasonable to conclude that the equities both of the individual and of all the people can best be maintained by the exclusion of government from ownership in revenue-producing activities except on the basis of mandatorially self-supporting rate structures; or, on a cooperative basis of interim subsidy and mutual effort in support of non-competitive private enterprise, in which the public welfare could be furthered more rapidly than private business can afford, to achieve a quicker and wider economic and social betterment. In such an equitable theory of governmental participation may be found some of the coordinates for a chart of progress for any people.

Let government hesitate on the threshold of every new endeavor blazoned for the benefit of the few to mark and measure the cost to the many, and before undertaking to destroy what exists, let it explore the possibilities of salvaging what is good in the old, to achieve the irreducible total of real costs to all. This could be the basis of a policy for any government.

Lastly, until there is final proof of the failure of all private initiative—as opposed to the controllable abuses of the few; and until the last recourse of ingenuity

proves its utter inability to respond to the common welfare, let the survival of individual freedom, of initiative, and of enterprise be our directional compass.

PRIVATE POWER MUST BE PRESERVED[9]

The fallacious theory that rates are reflected by the capital structure of the corporation has been repeatedly criticized; whereas the amount of securities issued by a utility has nothing whatever to do with the rates charged for electric service. These rates are based entirely on the value placed upon the physical properties of the company by the state regulation authority. It is the duty of this commission in each case to fix a rate that will cover operating expenses, taxes, and miscellaneous overhead, and allow a reasonable return on the actual value of the property in use.

Even though some few companies might have an inflated capitalization structure, the rates should not be affected by it. The United States Supreme Court has written this decree: "We reject entirely the whole subject of capitalization stocks and bonds. The utility is entitled to earn a reasonable minimum return upon the proper rate base. How many securities are outstanding is not of importance."

The private utilities are criticized for making exorbitant profits on the sale of electricity. The margin between the expense of manufacturing energy, and the sale price to the consumer is considered too wide. Other private unregulated industries, and the governmentally operated utilities are used as criterions. A few other industries are good comparisons perhaps, but few analyists go back far enough to the raw materials. Perhaps the ultimate price of electricity is fifteen times its actual cost at the power plant switch board, and its

[9] From manuscript by Daniel Ravenel, Jr. contributed for the Forbes Prize of the Edison Electric Institute, 1935. p.9-17.

delivery over unobstructed wires seems very simple and cheap, but the distribution of the current is costly. Maintenance and depreciation of equipment are expensive, and taxes are a terrific burden. Besides the clerical work incidental to an electric operation serving only a few thousand customers is considerable. The production cost of consumable goods is usually small in comparison to ultimate retail price.

Criticism has been heaped on the private utilities for making unfair evaluations of their properties in order to escape taxes, and to make excessive profits. This is unwarranted. The contrasting extreme is more often true. In a particular instance a utility was ordered to have an appraisal made preparatory to a rate readjustment. This company serves 21,000 customers, of which 16,000 are residential. The appraisers were an out-of-state firm of good reputation chosen by the Public Service Commission. They spent some four months making a survey, consuming the time of various employees of the utility whenever called. The bill for the appraisal paid by the utility was over $60,000. The final appraisal was considered too low by the company, but was arbitrarily slashed in half when casually examined by an out-of-state economist, temporarily employed by the commission and this expert had never seen the properties.

Possibly this is an extreme example, but surely utility men know and the public should know that voluntary unfair property evaluations are impossible.

Private utility lobbying in legislative halls has been condemned. Undoubtedly, some private utilities have maintained lobbies in state or federal assemblies, but if so their representatives have been far from efficient. Utility lobbyists might well improve their finesse by studying the methods of the lobbyists of the army, navy, certain federal departments, bureaus, authorities, many industries, the American Legion, the American Federation of Labor, and countless others. As far as bribing

legislators is concerned, it would be most difficult to hide such fees in the statements of utilities, which are always open to inspection by the public service commissions. It can't be done often.

PUBLIC UTILITIES AND THE NATIONAL NEED [10]

Without going into the political arguments for or against government in business, some conclusions are readily obvious. Utility rates have been too high for the good of the utilities and the consumers alike. Our system of utility regulation is not capable of effectively meeting modern needs. The utilities themselves without direction and regulation have been incapable or unwilling, or both, to meet modern needs.

Under the guidance of TVA more progress has been made in the Tennessee Valley in the past three years than in the previous decade. On the basis of its success there are proposals pending to create a Mississippi Valley Authority and a Columbia Valley Authority at the present time. Some further legislation undoubtedly will be enacted. One is impelled to question whether the government will eventually take over all public utilities. The tendency is in that direction.

I believe, however, there is another way out along a pathway quite well defined. During the past two years the Supreme Court has had occasion to act generally on the matter of regulation by the federal government. The Schechter case, involving the National Recovery Act, and the Hoosac Mills case, involving the Agricultural Adjustment Act, largely destroyed whatever aspirations the federal government may have had for the direct regulation of industry. The Tennessee Valley Authority Act case, however, sustained a far more rigorous government regulation in the form of direct competition.

[10] From article by J. P. Pope, United States Senator from Idaho. *Electrical World*. 106:1168, 1212. April 25, 1936.

The Supreme Court has in effect precluded direct regulation as a governmental policy, but has left ajar the door to socialism. I do not favor extensive government ownership and I am sure the great majority of the American people will not favor or demand it unless they are forced to do so as a last resort.

The average bill for 25 kilowatt hour, residential service, in the state of Idaho, is $1.93. Seventy-five per cent of Idaho's farms do not have radios, 70 per cent do not have electricity, 60 per cent do not have telephones. With the almost unlimited potential hydroelectric resources in the state, there is no sound economic reason why this should be so, and in the course of time those who are not now receiving these services will receive them, if necessary, thru government ownership. Fulfilling the public need in the course charted by the TVA is the place for the privately owned utility. If it will take advantage of that place government ownership will not become generally necessary. Wherever experiments have been tried it has been shown that a continuing program of rate reduction on the part of utilities has increased consumption to such an extent that the profits of the utility have increased, public needs have been met and general business of the area affected has been stimulated.

Some governmental interference was necessary to place this fact squarely before the public utilities. The government can, however, with a comparatively small number of governmentally conducted power projects thruout the nation to serve as experiment stations or "demonstration utilities," assist in placing utilities on such a basis as to render successful, satisfactory and admirable service from every viewpoint. Whether they know it or not, the owners and operators of public utilities occupy a position of trust and responsibility unlike that of any other industry. They can, under present conditions—and I believe they will—realize their

trust, assume their full responsibility and contribute their share toward the more abundant life. In doing so they will help themselves, assist their government and serve the American people.

EXCERPTS

Between 1920 and 1930 average capital expenditures were between $600,000,000 and $700,000,000 annually. In 1930 at the request of the President of the United States the industry spent for enlargements of its plants and facilities nearly $1,000,000,000. *Daniel Ravenel, Jr. "Private Power Must Be Preserved." p.2. '35.*

My experience covering a period of twenty-four years in regulatory work leads me to believe that utility executives measure up in honesty, integrity and ability with the executives and managerial officers in business generally, and that state commissioners, as a whole, are as true to their oath of office and assumed public duties as any class of governmental officers in the country. *Richard T. Higgins. Connecticut Public Utilities Commission. "Regulation of Public Utility Companies." p.1. Ag. 27, '34.*

The socialization of the electric industry thru public operation, by a combination of federal, state and municipal agencies, would make such far-reaching changes in the government's relation to business as to affect the whole pattern of government. It would open the door for government entry into a hundred fields of endeavor now conducted by private citizens. If government enters the electric business on the ground that it is a social necessity, what about food, clothes, shoes, coal, rents, house-furnishings, etc.? *Paul S. Clapp, Vice-President. Columbia Gas and Electric Corporation. Edison Electric Institute Bulletin. Ja. '35. p.9.*

The rapid growth of the electric light and power industry; its present size and wealth of property; the wide availability, and easy use of the service; its uncertain and incalculable cost on the part of the public, and its apparent monopolistic advantages; all formulate quite an array of suspicion, misunderstanding, and criticism from many people of all classes. The job of trying to understand the peculiar problems of the industry, is too difficult, misunderstanding is the root of most criticism. Besides the light bill comes in *every* month, and it must be paid. We might let the doctor, the druggist, the gasoline station wait. Even the grocer is sometimes lenient, but the light bill must be paid *on time. Daniel Ravenel, Jr. "Privavte Power Must Be Preserved." p.7.* '35.

The chief advantages claimed for private ownership include the following:

1. Greater freedom of initiative and adaptability to requirements of progress.
2. Territorial flexibility, without regard to municipal boundaries.
3. Incentive of profit to induce economy and efficiency in construction and operation.
4. Freedom of association with other utilities thru holding and management companies by which financial and legal assistance, technical advice, wholesale buying and other advantages may be had.
5. Freedom from civil service red tape in the reward and promotion of efficient employees.
6. Freedom from political interference and domination.
7. Freedom from debt limits and flexibility in financial arangements. *Delos F. Wilcox. "Administration of Municipally Owned Utilities." p.6. Public Administration Service. N.Y.* '31.

If those who want the government to dominate the electric power situation have their way, the country eventually will be blanketed with a network of power authorities. If the Congress refuses to approve the creation of a Mississippi Valley Authority, it is a reasonable assumption that agitation will be commenced for the enactment of bills setting up separate authorities for different areas within the Mississippi Valley.

Among the many proposals actually pending in Congress are bills for the creation of a Connecticut Valley Authority, a Potomac Valley Authority, an Appalachian Authority, a Missouri Valley Authority, a Middle-Mississippi River Valley Authority, an Upper-Mississippi Valley Authority, an Arkansas Valley Authority, a Wisconsin Valley Authority, a Wabash Valley Authority, and a California Valleys Authority. *"Socialization of the Electric Power Industry."* *p.*25. *American Liberty League. Je.* '36.

The enormous savings to electric power users which are predicted as a result of the harnessing of St. Lawrence power are without any basis of fact. Popular misconceptions about water power and government ownership have been mingled with economic half-truths by the advocates of the project. Cost figures have been distorted by the exclusion of interest during construction and other items, a portion of the fixed charges that should be borne by the power development would be charged to waterway improvements, savings in local distribution expenses have been attributed to the power development, and the low cost of steam generation of electric power has been overlooked. If the power project were constructed and operated upon a self-sustaining basis without a government subsidy, it would be hard pressed to meet the competition of privately owned utilities. *Ramon Wyer. Harvard Business Review. Ap.* '35. ***p.*352.**

For many years mortgage bonds of operating public utilities have been legal investments for mutual savings banks. Scores of such banks hold these bonds in amounts exceeded only by their real estate mortgages. The amount of such bonds held by mutual savings banks is more than $500,000,000. The real owners are the 13,000,000 depositors who look to us for intelligent action in safeguarding their investments. These millions, together with other millions who have sought protection thru life insurance, or have invested directly in public utility securities, have furnished the money to develop these vitally important instrumentalities of service, comfort and convenience. It is an unhappy feature of the present situation that these every-day folk are so generally overlooked by those who for one reason or another find it desirable to attack what they are pleased to call the power trust. It has been said that the public utility investor is the forgotten man in the New Deal. It may become our duty to help in reminding the world of his existence. *Edward K. Woodworth, President, New Hampshire Savings Bank. Electrical World. My.* 26, '34. *p.*753.

Let me repeat to you again what the electric utility and operating companies of this country are seeking today:

1. A reasonable regulatory utility holding company bill which will prevent the reoccurrence of all of the alleged abuses which have been enumerated.

2. A federal regulatory bill as to operating companies which will be limited in its provision to the regulation of the electric energy actually moving in interstate commerce and which will leave to the several states, their full power of regulation over electric energy generated, transmitted and distributed within their own borders.

3. A cessation of the giving of money and the loaning of the balance at low interest rate for the establishment

of municipal electric plants which directly compete with business already established and in which people have invested their savings.

4. Restrict at the switchboard the sale of power generated by federally owned hydro plants, such power to be distributed by existing distribution systems under such regulation as will insure to the consumer any savings that may be affected by such generation. *Wendell L. Willkie, President, Commonwealth and Southern Corporation. "The New Fear." p.*13-14. '35.

The following table of the United States Bureau of Labor Statistics depicts clearly a decline in electric prices:

Year	Living Costs	Wholesale Price Finished Mfg. Products	Household Electricity
1915	100	108	100
1920	218	218	94
1925	174	145	90
1930	168	125	82
1932	136	102	79
1934	146.4	112.5	72.8

Regardless of the fluctuation of other prices since before the war, the electric services cost index has steadily declined. This decline in price has been effected in the face of a decrease in output of power since the peak of 1929. Decrease in price has had a definite effect on revenue from ultimate consumers, which reached its peak of 1,990,955,000 in 1930, dropping in 1933 to 1,773,416,000, only climbing back to $1,830,000,000 in 1934 for all types of service. The amount spent by the average family today for electricity is the smallest item in its budget compared with taxes, food, rent, clothing, amusements and recreation, and automobiles, and is only about 1½ per cent of the total budget. The average price of domestic electric service has dropped from 7.3 cents per kilowatt hour to 5.34 cents per

kilowatt hour in the past decade, or a decrease of 27 per cent; and yet regardless of the lower rates, consumers claim they have to pay too much for electricity. *Daniel Ravenel, Jr. "Private Power Must be Preserved." p.*4-5. '35.

The District of Columbia and all states but nine now have public service commissions whose function it is to secure adequate and reliable service at reasonable rates. The remaining nine states provide for regulation to some extent thru local bodies and they can readily establish state-wide regulatory commissions, if they wish. These commissions have or can be given full regulatory power.

During the last decade, the effectiveness of state regulation has greatly increased due both to the strengthening of the state regulatory laws and to the fuller exercise of their powers by the state commissions. State commissions *now* possess full regulatory power to fix retail rates to all customers located within their respective states. This authority exists even tho the electricity so sold has been transmitted across state lines.

Furthermore, in fixing retail rates, state commissions can refuse to allow as an operating expense excessive charges paid by distributing companies for power purchased from affiliated companies, and thus can entirely remove the effect of any such unfair contract upon the local rates. The burden of proving the reasonableness of such intercompany charges is upon the distributing company which must, therefore, present to the state commission all proof necessary to sustain the charges, including the cost of the service to its affiliated company. This removes not only any legal obstacles but also any practical obstacles to complete and effective state regulation and affords complete protection to the consumers against any excessive charges of this kind. *"Effect of the*

Public Utility Act of 1935 *Upon State Regulation of Public Utilities." p.* 17-18. *Committee of Utility Executives. Mr.* '36.

Public ownership of our utilities by municipalities has been given a fair trial in this country during the past several years and, with few notable exceptions, has failed. According to the Bureau of Census, there were in this country in 1932 but 1,802 municipal electric plants, compared with 2,198 in 1927, a decline of 396 units in 5 years, or at the average annual rate of about 80 units per year. Despite the tax advantage of the municipal plant and generally lower capital costs, politically operated systems have been found less satisfactory than privately controlled plants and the general policy of turning this function back to private initiative and private capital is being continued in this country.

The federal government has repeatedly demonstrated to its citizens its ineptitude in business. The Inland Waterways Corporation, the Post Office Department, the Merchant Fleet Corporation and a host of others whose recurring annual deficits have to be made up with taxes, are live examples. That costly "white elephant," the Inland Waterways Corporation, has required a subsidy of from $1,500,000 to $2,500,000 in nearly every year since incorporation. The deficit of the Post Office Department has averaged over $100,000,000 per annum during the past four years. Operation of the Merchant Fleet has cost tax-payers from $11,000,000 to $92,000,000 annually during the past ten years. If such business ability were applied to private enterprise that has no inexhaustible source of funds upon which to draw, bankruptcy would quickly be the result. *Financial World. D.* 20, '33.

This bill will lend encouragement to a movement which has sorely harrassed the people of Missouri wherever they have had experience with it.

Wherever machinery companies and so-called municipal engineers have succeeded in selling electric equipment to municipalities, we find two things: excessive prices for electricity and excessive tax burdens upon the people.

We are not fooled, and we do not believe this legislature will be fooled, by the false cloak of public welfare that the promoters of this legislation are wearing. We know, and we believe this legislature knows, that their aim is purely one of commercial gain. We know, and you know, that what they want is to sell machinery and engineering services.

We also know that, because of restrictive legislation and public safeguards, there is even less reason for a municipality to go into the power and light business than to go into the grocery business or the hotel business or newspaper business or filling station business or laundry business. *Points in Opposition to Senate Bill No. 9. p.4. Union Electric Light and Power Company. Cincinnati, Ohio. N.* 13, '33.

In the generation of hydroelectric power each kilowatt year represents six tons of coal. TVA proposes hydroelectric plants with an annual output of 1,000,000 kilowatt years. (Fifty per cent of total capacity of 2,000,000 kilowatt.) This power output if produced by coal burning plants would utilize on an annual basis more than six million tons of coal. This is not the whole story for the consumption of TVA hydro power when and as consumed in substitution for coal burning equipment tends to still further deprive coal of its markets, to the extent of millions of tons annually.

The disastrous consequences of such displacement of coal and annihilation of coal markets upon capital and labor engaged in the bituminous mining industry is self evident.

Every million tons of coal displaced in the Tennessee Valley or elsewhere results:

In the elimination 20,000 car loads of coal, 400 trains of 50 cars each, and elimination of the employees required to operate them.

In a loss in railroad freight revenue of over $2,000,000. And fifty cents of each railroad revenue dollars goes to labor.

In the loss of $1,000,000 annually in the pay envelopes of mine employees (for 65 per cent of the cost of producing coal is labor cost).

In the loss of employment and pay to many others indirectly engaged in the production, transportation and merchandising of coal.

In the elimination in the aggregate of 1,000,000 work days (for each ton of coal lost is estimated to represent loss of one day's work directly or indirectly employed in production and distribution of coal).

In the permanent closing down of hundreds of mines, upon which whole communities are dependent for support. *"Facts about the Billion Dollar Water Power Development of the Federal Government." p.* 1, 9. *National Coal Assn. S.* '34.

It has been widely publicized that prior to 1929 the public utility industry was guilty of nineteen alleged abuses. It is said that securities were sold and are now held by a large number of investors in different states; that there is no uniform method of accounting among public utility holding companies with the consequent result that security purchasers cannot measure their respective values; that such securities were issued without the consent of public authority; that the total of such securities were issued to a greater amount than the bare physical value of the property against which they were issued; that in some cases such securities were issued upon the basis of present or prospective earnings; that there were instances of overcapitalization; that utility holding companies have had service, engineering and construction agreements with their operating com-

panies from which they made excessive profits; that holding companies owning a majority or all of the common stock of operating companies exercised control over their operations; that in certain instances stock dividends were issued; that stock was issued, some of which was voting and some not voting; that holding companies were pyramided; that there were book write-ups of physical property value and that advantage was taken of various corporate devices to avoid payment of federal income taxes.

Those who present this indictment do not contend that these abuses were universal, or that many companies were not free of all or most of them. The reoccurrence of most of these abuses has since been prevented by the Securities Act and the Securities Exchange Act and it is agreed that seventeen out of the nineteen were as applicable to all other forms of American corporate enterprise as to the utility business. *Wendell L. Willkie, President, Commonwealth and Southern Corporation. "The New Fear." p.*3-4. '35.

Granted that there is room for improvement in the rates charged by many public utilities, and that there is a need for greater uniformity and simplicity in rate structures, yet the fact remains that, in large part, the answer to lower electrical costs to the everyday consumer does not lie in cheaper generating costs, whether by St. Lawrence, Muscle Shoals, or super steam plants, desirable as these may be, but rather in a substantial improvement in the individual consumer's load factor. This can be brought about only by great usage and more diverse utilization of electric appliances in the home. This means a completely electrified home, which, in turn, means an investment on the part of each housekeeper of from $500 to $2000 or even more. Many companies are serving such all-electric homes at average kilowatt hour rates as low as three cents.

two cents, and even less. The fact that most families cannot afford the investment required for complete electrification is one of the great obstacles to cheap electric rates in the average home.

In conclusion, it would seem to the authors that the construction of the St. Lawrence power project, desirable as it may be from the point of view of the conservation of our natural resources and ultimate national economy, is not at present justified, on the following grounds:

1. The power is not needed, there being at the present time ample capacity in New York State in excess of requirements.

2. If built the plant would stand partly idle, or else replace and make useless present facilities owned by private capital, unless perchance huge power-consuming industries with high load factors could be induced to build along the St. Lawrence.

3. If built, it could produce power only a few mills cheaper than existing plants, and would have a negligible effect on present rates, a fact which was pointed out in the report of the Marketing Board, but which has significantly been ignored by proponents of the project.

4. Its construction at this time would constitute a tremendous burden on the taxpayers, in addition to being a direct threat to thousands of investors in the utilities of New York State. *Edgar A. Van Deusen and A. J. P. Wilson. Barron's. N.* 27, '33. *p.*6.

Government figures show that 47,000,000 dollars has been spent in building the dam and electric equipment at Muscle Shoals. With interest and depreciation at 6 per cent, you and I are paying an annual interest charge on Muscle Shoals of $2,820,000. Now a steam plant to make the same power would cost about $8,000,000, which, with interest and depreciation at 8 per cent makes the yearly carrying charge $640,000. The coal required would be about 375,000 tons at $4 per ton—$1,500,000.

Total yearly cost of the steam plant, $2,140,000, or nearly seven hundred thousand dollars a year less than the government water power plant. You will see from this that the savings over the hydroelectric plant would pay for the steam plant in ten years, while the government plant will be paid for by our great grandchildren. I have put the coal cost at $4 per ton because the Muscle Shoals is within a stone's throw of the Alabama and Tennessee coal fields.

Lest you feel that this is a partisan statement, I quote from an official report of M. C. Tyler, Lieutenant Colonel, Corps of Engineers, United States Army, dated October 29, 1931:

1. The government's power plants at Muscle Shoals and the proposed Cove Creek development are not suitably located to serve as the main generating system of an extensive independent power system.
2. The construction of an independent system would involve expenditures of public funds.
3. The cost of transmitting power in such a system would be high and the reliability of service at long distances from the generating system would be poor.
4. The construction of such an independent system would be an economic waste, in that it would duplicate transmission facilities now ample to serve the region.
5. It may be expected that the deficit from the construction and operation of such a system which will have to be met by the federal treasury and by the general taxpayers, will largely exceed any savings from lower rates which may accrue to the limited local public served.

The report has been lost in the Wonderland at Washington.

It takes about two men working for a mining company to produce 1000 tons of coal per year. Thus, this one hydro plant puts out of work 750 mine employees and destroys a community dependent upon them. It takes off the railroads 150 train-loads of coal and the train crews and deprives the railroads of perhaps $750,000 in yearly revenue. Is this the greatest good for the greatest number? I submit that it is not.

But this is not the whole story. The total cost at Muscle Shoals for an auxiliary steam station, obsolete nitrate and fertilizer plants, etc., has run the cost up to $127,000,000. *E. A. Holbrook, Schools of Engineering and Mines, University of Pittsburgh. "Coal Industry and the Government's Hydro Electric Plants." p.7-9. National Coal Assn.* '34.

It is difficult to compare the efficacy of two methods which, having different aims and objectives, necessarily differ in method of accomplishment. There are two principal points to be considered: first, the character and competence of the personnel, and, second, the relative protection which the individual consumer receives.

Private enterprise's scheme for compensation of employes is entirely different from that of government. It starts on a lower scale, but rewards efficiency and the exercise of initiative far more than government does. Employment in private enterprise, under the existing circumstances, is easier to obtain. On the other hand, it is easier to lose. Civil servants and other government employes forming an important political bloc are seldom discharged. If government employment is outside of the civil service it is political employment, and therefore more contingent upon political influence than ability or fitness.

The civil service, it may be noted, gives an opportunity for career employment and protects its servants from political influence. Unfortunately it has not operated as effectively in this country as in England, for example, and position is largely contingent upon length of service. Under certain circumstances, however, the personnel fits in well with the type of enterprise. In such routinized services as water supply and the postal service, the principal thing required is honest performance of duty. The operations are of a repeating character; emergencies requiring initiative seldom arise.

Under the existing system of private ownership, the consumer finds protection against exploitation and discrimination in the system of state regulation. *With federalized ownership and operation there could be no body to which the consumer could appeal.* Such a situation exists at present with the Hydro Electric of Ontario.

With state ownership appeal could be taken to the superior power, the federal government. The federal government, however, is remote from the individual consumer and is not interested in him as an individual. Only with municipal or local operation can the consumer expect even a fraction of the protection he now enjoys. However, state commissions would hesitate to interfere in a local situation of municipal operation, not only because of the political consequence but because the rates charged would depend entirely upon the purpose of the operation. Therefore, in the absence of rules upon which to judge the reasonableness of rates, the difficulty of effective rate control would be enormous. *Robert Teviot Livingston, Columbia University. Independent Journal of Columbia University. Ap.* 17, '36. *p.* 2.

The radicals advocate the following untruthful doctrines:

The utilities are guilty of mismanagement and dishonesty and state regulation has failed, requiring the adoption of a radically new system. And yet the Federal Trade Commissions' investigation, probably the most searching, has vindicated the companies examined. The new system of public (political) ownership has already been tried resulting in failure in Australia and this country—the war time railroad and steamship experiences being sad examples.

Public ownership is a cure for the shortcomings of private ownership, being superior in many respects

especially in point of costs, however honest or efficient private ownership may be. The political Ontario Hydro Commission is used as an example to prove this theory, and yet in fact companies in Buffalo, Niagara and Eastern groups, which get their power from the same source, receive after allowing for taxes 6.4 mills per kilowatt hour, whereas the Ontario Commission receives 9.5 mills. Their comparisons are unfair and misleading, for the public ownership advocates usually compare only domestic rates. They disregard the fact that public ownership results in exemption from utility taxes, allowance for depreciation, sinking fund payments, interest on the investment, and besides creates higher public taxes because of the loss of taxes paid by the privately owned companies. Nothing is said of the waste, inefficiency or graft invariably incidental to political operation.

Owen D. Young says that he has had the opportunity during the last few years to observe the operation of publicly owned enterprises in most of the principal countries of the world, their efficiency in service is markedly less than the private companies. He states, "Let no man think that a government bureau, in the management of such an enterprise is an economical or an efficient instrument."

Rate reductions and service improvements are never made unless the utilities are compelled by the state commissions or courts to do so, and even then they resist, wishing to keep their rates as high as possible indefinitely, so as to continue to make enormous profits. This is flagrantly untrue. Everyone should know that rate reductions are common to practically every operating company in the country. Ninety per cent of the rate reductions made by the utilities in the past ten years have been made voluntarily.

The utilities fight state regulation and do everything they can to frustrate its effectiveness, by court appeals and otherwise. State regulation has been a policy of

this country for twenty years. It is considered a practical method of control by leaders of the industry, and the business would not have enjoyed such satisfactory progress under any other method of supervision.

A careful analysis of court appeals reveals that there have been more than 200,000 cases or applications brought before commissions. Less than one tenth of these cases handled in the last fifteen years by the state commissions have been taken into federal courts, and not more than 154 cases involving utility regulation have been carried to the Supreme Court. The majority of these cases were regarding railroads, and in 86 cases the company's contentions were upheld, 60 of which the court concurred in unanimously. *Daniel Ravenel, Jr. South Carolina Power Company. National Electric Light Association Bulletin. S.* '31. *p.*606, 635.

Installed capacity of existing electric power plants in North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Alabama, and Mississippi (at end 1932) was 3,205,600 kilowatts capable of delivering at 50 per cent utilization annually 14,040,526,000 kilowatt hours per year.

The entire TVA system, as now planned, will have an installed capacity of some 2,000,000 kilowatts capable of delivering at 50 per cent utilization annually 8,760,000,000 kilowatt hours per year. Actual generation of electric energy (in 1932) in the seven states mentioned was 6,362,219,000 kilowatt hours. Thus these figures show:

a. Existing installed capacity exceeds by more than 100 per cent current demand and consumption.

b. For every kilowatt hour consumed two kilowatt hours are *already* available.

c. TVA contemplates duplicating more than 60 per cent of existing power generating facilities, and itself will generate more power than the total present demand in the entire area.

Even if present power consumption were doubled, existing facilities are still made to supply the increased consumption, with ample surplus.

Power consumption in TVA area will have to increase over 3½ times its present volume to provide a market for all *present* power there plus all that TVA proposes to develop.

Other prospective power "niggers in the woodpile" are the Mississippi Drainage Area Board, Missouri Valley Authority, Wabash Valley Authority, and Santee Cooper Project in South Carolina. Nobody knows how many millions would be necessary to even break ground for these.

These projects, if ever completed, will mean the complete confiscation of the private property of the electric utilities. It will destroy the market for millions of of tons of coal and put hundreds of thousands of workmen out of employment permanently. It will further impair railroad revenues permanently, and will inflict incalculable injury upon the lumber, coal, gas and ice industries, besides increasing the public debt by adding billions of dollars to the now heavy tax debt of the American people.

Wasteful federal water power projects under construction are described below. Proposed projects are not included.

It is interesting to note the energy capacity summary of the following:

TVA, Boulder Dam, Grand Coulee, Bonneville, Verde, Caspar-Alcova, Fort Peck, and Loup River.

Capacity of existing plants kilowatt hours per year	35,089,760,000
Additional capacity of proposed new federal plants	19,687,480,000
Total combined capacity	54,777,240,000
Total consumption 1932	18,481,085,500
Existing capacity in excess of market demand	47%
Total excess capacity including federal projects	66%

Existing plants plus proposed plants in this group have an aggregate capacity three times greater than the total market demand. Many of us are familiar with a number of projects under discussion not listed above which will more than double the nation's supply. The cost of these projects will add materially to the taxpayer's bill. A summary of these is as follows:

	Estimated Cost	P.W.A. Allocations
Grand Coulee	$63,000,000	$15,000,000
Bonneville Dam	43,900,000	31,250,000
Fort Peck Dam	59,000,000	50,000,000
Verde Project, Arizona	18,912,000	4,000,000
Caspar-Alcova, Wyoming	22,700,000	12,200,000
Owyhee-Idaho, and Oregon	18,000,000	6,500,000
Contemplated	225,512,000	
Alloted		118,950,000

*Daniel Ravenal, Jr. "Private Power Must be Preserved." p.*33-5. '35.

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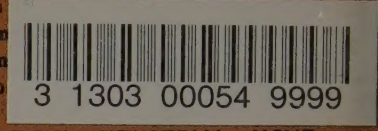

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